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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

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There's a Simple

Standardize on Stromberg-Carlson dials—America's only dial with the transparent plastic dust cover. Keeps out bugs, dust, lint and the like, yet provides easy observation of moving parts and quick access to the interior through a snap-on lid.

STROMBERG-CARLSON Factory, General Offices: Rochester 3, N.Y. • Branch Office

TELEPHONES, SWITCHBOARDS • SOUND EQUIPMENT AND ELECTRONIC CARILLONS • INDUSTRIA

THEATRES

Scores of Operating Companies Say

THIS EXTRA BUSINESS IS GOOD BUSINESS

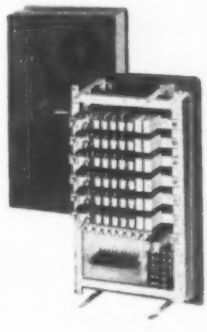
Giving your subscribers better telephone service with KELLOGG Key B-X *is* good business—for you and for them.

Key B-X is a revenue builder that repays your investment in full within a few years. That has been proved by progressive operating companies in scores of diverse communities!

Key B-X offers *both* large and small organizations faster, more flexible and economical telephone service. Any subscriber requiring several telephone instruments, with intercommunication facilities and one or more central office trunks, *needs* Key B-X. It gives him new efficiencies that more than pay for its rental.

Key B-X requires no attendant. Each person has a Key B-X Box on his desk. He has access to all incoming and outgoing trunks. He can talk to any other Key B-X Station at the flick of a switch—call a telephone round table conference—hold an outside call while he gathers information over the intercommunication circuit.

Key B-X Systems are being shipped promptly upon receipt of order. *You can start boosting your rental income immediately.* Ask your KELLOGG Representative for full information—or write direct. And meanwhile compile a list of prospects. You'll be surprised how many there are!



Simple to Install, Maintain or Change

Key B-X requires practically no servicing. Original installation is easy and inexpensive. All trunks in the relay cabinet are plug-in type. Additional trunk circuits may be installed in just a few minutes.

KELLOGG SWITCHBOARD AND SUPPLY COMPANY

Established 1897

KEY-BX SYSTEM

6650 SOUTH CICERO AVENUE • CHICAGO

EVERYTHING IN TELEPHONE EQUIPMENT

FLASHES AND PLUGS

NO INSECTS ON HIM! From down Dixie way comes this story of the trials and tribulations of a section lineman. It seems that cattle raisers in South Alabama frequently employ treadle type sprayers to keep their stock free of ticks and other blood-sucking parasites. These electrically operated sprayers are usually installed in an opening in the fence between pasture and water place so that the cattle, in passing through, operate the treadle and receive a liberal spraying of creosote, formaldehyde and other insecticides. Cattle learn fast and, after a few sprayings, cross these gaps on the run with head held high.

A section lineman of Montgomery, Ala., was not familiar with these gadgets and when he noted the fence opening he assumed that it was placed there for his convenience. He further assumed that the planking over the treadle was there to keep his feet dry so he nonchalantly sauntered through carrying a coil of copper wire and a test set. Unlike cattle, when the spray hit, he did not run but turned to face the attack and received a super dose of the insecticide.

After bathing in a nearby stream, the lineman returned to his station clad only in a tarpaulin and insisting that the meat of the cattle so sprayed could be eaten without condiments of any kind. He further stated that the coil of wire was annealed by the spray and the test set rejuvenated to the extent that, once connected to line wires, it rang adjacent offices without the necessity of turning the crank.

• • •

NOT WHAT MEETS THE EYE. A crowd, as is the habit of crowds when anything happens, recently began to gather around a man who was lying on his stomach in the middle of the street. Most of them were just staring vacantly, not knowing quite what to do, when a good samaritan rushed up and exclaimed excitedly, "Can't you see that this man's in trouble?" The good samaritan then straddled the man's back and began applying artificial respiration. This continued for a few seconds before the telephone man (for that's what he was) looked back over his shoulder and remarked, "I'm not drowning, mister, I'm just trying to get my hat out of this manhole."

• • •

WAS THIS CRICKET? People who live in glass houses shouldn't throw stones, it is said. It seems to us that this advice is especially appropriate among party-line telephone users.

The M. C. on the nationally popular radio program, "Truth or Consequences" recently quizzed two women participants about the other parties on their party lines. Each of the women gave the other party on her line a thorough going over—the other party was discourteous, "hogged" the line and otherwise made a nuisance of herself. Each of the two insisted conditions on her party line were well nigh intolerable.

Then—consternation! The M. C. interrupted the complaints with the information that the two ladies were both on the same party line.

• • •

SOMETHING TO CROW ABOUT? "Send a cruiser over," a Columbus, Ohio, woman shouted not long ago. "There's somebody next door screaming 'Oh, help me! Oh, help me!' "

So a couple of policemen rushed out to her home. It was 4:55 a.m. They found a rooster sounding off in a back yard. And it did sound a little like, "Oh, help me!" But maidens in distress were conspicuously absent.

Telephony

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July 8, 1950

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H. D. FARGO, Jr., *President & Advertising Manager*
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MAYME WORKMAN, *Traffic Editor*
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U. S. A.

THE WHITNEY BLAKE BULLETIN

Distributed by Graybar

LABORATORY CONTROL

IN TELEPHONE WIRE MANUFACTURE

PLASTICITY

A basic property required in insulating compounds for extrusion on wire is plasticity.

In the extrusion process, insulating compounds are forced by high pressure through a die, and shaped around the conductor. For high speed extrusion, plasticity must be controlled within narrow limits. If plasticity varies beyond the desired limits, the required diameter cannot be maintained. Compounds which are too plastic do not offer sufficient resistance to the screw and wall of the extruder to be moved at a uniform and constant rate to the point of application to the conductor. Compounds which are not sufficiently plastic require excessive pressures for application. Also, they cause generation of excessive heat in the extruder, which may result in "scorching" or partial vulcanization before application to the conductor. Compounds lacking in plasticity, since they are unable to knit to a homogeneous mass, produce a rough insulation surface and contribute to formation of faults.

A preferred instrument for measuring plasticity of rubber insulating compound is the Williams Plastometer (Fig. 8). The test method is empirical but universally accepted. It consists of applying a load of 5 kilograms to two parallel metal plates. For accurate measurement the instrument must be maintained at constant temperature.

For plasticity tests of rubber or neoprene, 70°C. is the common test temperature. Scorch tests are usually made at higher temperatures.

The common test specimen is a 2 cubic centimeter cylinder. It is heated for 15 minutes at test temperature before the test is made. The specimen is then placed between the parallel plates and load applied for 3 minutes. The thickness of the test specimen is then measured. The thickness in hundredths of millimeters is called the "plasticity number." The specimen is removed at once and allowed to cool without load for one minute. Thickness is then measured again. The increase in thickness during rest is known as the "recovery number."

Plasticity outside a predetermined range indicates lack of suitability for the extrusion process. The composition may be an unsuitable one or the composition may be over or under processed. With plasticity within the desired range, any appreciable recovery indicates insufficient processing or incipient vulcanization.

Plasticity measurements played an important part in the development of the insulating and jacketing compounds for Whitney Blake Teleprene and Teleseal telephone wires. Similar tests are carried on day in and day out in Whitney Blake laboratories (Fig. 7). They play an important role in contributing to economical production and maintenance of quality of WB products.

Future Whitney Blake Bulletins will discuss other phases of our continuing program of research and laboratory control, a program designed to provide the Independent Telephone Industry with more dependable, higher quality wire.

Fig. 7

A section of the Whitney Blake laboratory.

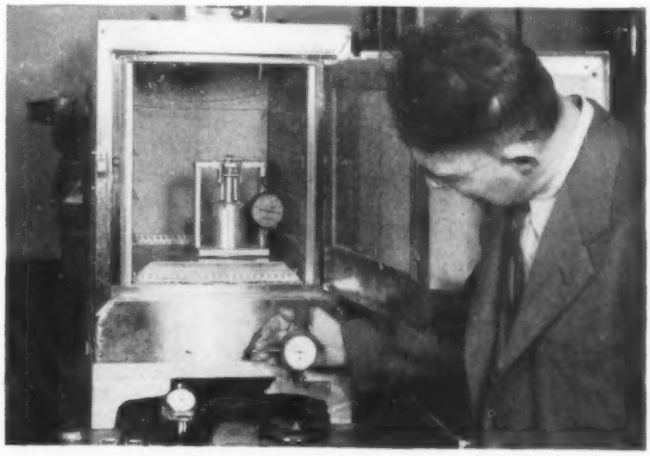


Fig. 8

Measuring plasticity with the Williams Plastometer.

Reprints of this advertisement are available on request.

THESE 5 ADVANTAGES MAKE ANSONIA Ankoseal A BETTER TELEPHONE CABLE...

1. LIGHTER WEIGHT

For example

26 pr.	#22 AWG	Ankoseal	205 lbs/M ft.
100 "	"	"	800 " " "
26 "	"	Paper Lead	675 " " "
100 "	"	" "	1675 " " "

Look at the savings possible in messenger and size of installing crew.

2. COMPLETELY WATERPROOF

Ankoseal cables will operate completely immersed in water without the outer jacket. Try this on your paper cable! Think what it means in lowered service interruptions and out of order calls in cases of storms or wilful damage to your outside plant.

3. EXCELLENT TRANSMISSION CHARACTERISTICS

Capacitance per mile Ankoseal #22 AWG .09 to .095 mfd/mile
" " " Paper Lead " " " " " " "

Transmission losses per mile (600 ohms impedance 1000 cps.)
#22 Ankoseal 1.06 to 1.2 db/mile
" Paper Lead 1.7 to 1.9 " "

4. LONG LIFE

PVC jacket stocks show no change in physical properties after combined direct earth and air exposure for over 10 years.

5. EASY TO SPLICE

Customer experience indicates ease of splicing. In many cases installation time has been cut in half and splicing takes no longer than with older types.

If you aren't using Ankoseal Telephone Cables now you should find out about them.

Why not phone us—right now—the number is—

Ansonia 1387-88-89-90-91

THE ANSONIA ELECTRICAL COMPANY

SUBSIDIARY OF NOMA ELECTRIC CORPORATION

ANSONIA, CONNECTICUT

IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH
WASHINGTON EDITOR

REA passes $3 million mark in rural telephone loans as previously predicted by Welch. . . . Set-up of theoretical 500-subscriber rural exchange shows need for greatly increased rural rate. Post Office operations and deficits compared to telephone industry's record.

REA Loans Pass $3 Million Mark

ON THE last day of the fiscal year of 1950, the Rural Electrification Administration, with an 11th hour burst of activity on approved rural telephone loans allocations, passed beyond the $3 million mark optimistically forecast by this writer in TELEPHONY, June 17 issue. Altogether, REA closes its 1950 fiscal books on telephone allocations of almost $3,500,000—to be exact $3,426,500.

Of course, this total falls far short of the $25,000,000 in lending authority made available by Congress for the fiscal year 1950. As a matter of fact, the loans allocated amount to about 14 per cent, or a little less than one-seventh of the total which Congress authorized. But it must be recalled that the REA telephone program has been in operation less than a year. As a matter of fact, Congress actually appropriated funds for the program even before the Rural Telephone Loan Act was approved.

The first loan (to the Florala, Ala., Telephone Co.) was not allocated until last February. Since then REA has made 17 telephone loan allocations—15 to telephone companies and two to rural telephone co-ops.

Those who have been with REA for some time recall that its rural electrification program, which began in 1935, got away to a fairly slow start but gathered speed as the staff got "in the groove" with respect to processing applications. Whether the REA telephone loan program will pick up speed sufficiently to exhaust the proposed $25,000,000 for the coming fiscal year as well as the "carryover" for the fiscal year 1950 remains to be seen. That would make a total of $46,500,000, roughly, which REA would have to put out in telephone loans within the next 12 months. This assumes, of course, that the Senate will pass the House-approved Omnibus Appropriations Bill now pending, containing authority for $25,000,000 in more REA telephone loans for the fiscal year 1951.

Offhand, that seems like a big job for REA to accomplish with its limited staff. It would mean approval of REA rural telephone loans at the rate of nearly $4,000,000 a month for the next 12 months. That would be a monthly average in excess of all the loans REA has managed to allocate up to July 1.

The two loans approved on the last day of the fiscal year (June 30) went to Independent telephone companies. Public Service Corp., Newport, Ark., has authority to borrow $216,000 to improve and expand existing facilities. This company is now serving 264 subscribers and has 441 new subscribers in view. Hopewell Independent Telephone Co., Aliquippa, Pa., has authority to borrow $158,000 for plant improvement and expansion of present facilities. It now serves 470 customers. The loan is intended to add 930 subscribers.

(On July 23, the REA also allocated to the East Ascension Telephone Co., Gonzales, La., a loan of $275,000 to rehabilitate 43 miles of line serving 207 rural subscribers; to build 127 miles of new line and a new central office building to house dial telephone switching equipment and facilities to serve about 1,993 additional subscribers.)

Altogether 17 REA allocations, made up to July 1, are calculated (by REA) to bring telephone service to 18,879 new rural subscribers in 15 states. Improved service to 6,979 existing subscribers is also supposed to result. Figuring this out on a per station basis, it would come to about $185. In other words, REA's customers are borrowing $185 for each new telephone station to be added. Just how much additional investment the borrower will have to make by way of "equity," and what might be offset to represent the improvement of service to existing subscribers are two unknown averages which make it difficult to determine, within any degree of definiteness, just what the average investment per telephone station is running under REA financing.

Largest allocation was for $581,000 to the Eastern New Mexico Rural Telephone Cooperative, Clovis, N. M. Smallest was for $25,000 to the Navasota (Tex.) Telephone Co.

Total loan applications, as of June 30, numbered about 500, amounting to over $56,000,000. Plans included in these applications would provide telephone service to about 142,000 new rural subscribers and improve service for about 116,000 more. Texas led the states in number of applications filed, with 48. Other leading states were Wisconsin with 36, Minnesota with 35, and Kansas with 30. Seven other states—Connecticut, Delaware, Idaho, Maryland, New Hampshire, New Jersey, and Rhode Island—are not represented among the applicants.

What Price Rural Telephone Service?

Perhaps one reason for the slow start in making REA rural telephone loans is the practical fact that cheap government money is not the only answer to adequate rural development. One important factor which may—in many cases—be the real answer is *the rate the farmer will have to pay!* So, whether telephone service is financed by REA or by private credit sources, supporting a telephone company, we cannot expect the extension of rural service to pay out, in terms of successful operation, unless the rate is such that the farmer patronage can be attracted.

Along this line there was recently made available to this writer an interesting study of a typical 500-station rural dial exchange. This study shows a comparison between the rates that will be necessary for improvements made under the following varying conditions:

(1) Assuming REA financing of all debt at 2 per cent interest, repayable in 35 years.

(2) Assuming a privately financed co-op set-up, under which each subscriber puts up $50 to obtain service, from which he would get *no* return.

(3) Assuming the same set-up as in (2), except that the investors would receive 1 per cent annual return.

(4) Assuming a non-cooperative set-up, paying federal income taxes, plus a 6 per cent annual return to the $50-investors.

(5) Assuming a non-cooperative set-up, returning 6 per cent on outstanding capital (with a one-third debt ratio at 3 per cent).

What would be the monthly telephone rate required in each of the foregoing five situations? Remember this is strictly rural development with no urban stations whatever. The computations worked out for this writer show the following monthly rate requirements for each situation:

(1) A monthly rate of $3.90.
(2) A monthly rate of $3.72.
(3) A monthly rate of $3.77.
(4) A monthly rate of $4.03.
(5) A monthly rate of $5.00.

Notice that the total spread between the cheapest and the most expensive rates is a matter of $1.28. Notice, also, that the cheapest rate ($3.72) would require a contribution by the subscriber of $50 without return. (He could get service *without* such down payment—at the highest rate of $5.00 a month—for nearly four years, before the difference in rates would, with interest, amount to such a substantial lump sum required in order to get advantage of the cheapest rate.)

The purpose of this comparison is to show that there may be some unwarranted optimism about the "cheap rate" effect of long-term, low-interest government financing. That is if we are seriously considering cheap rates for *rural* service. The idea, commonly repeated these days, that a telephone company can come out even, with a $2.50 to $3.00 rate, during a period of debt retirement, plus interest payments, may be illusory.

Naturally, some readers will want to know the basis upon which these rate figures have been worked out. It was necessary of course, to make certain assumptions in order to arrive at intelligent comparative figures. But the study in each case is based on certain operations of actual 500-station exchanges. The figures are not only based on practical experience, but are as nearly accurate as can be projected on a comparative basis.

The basic assumptions are as follows:

Plant Investment

(This includes a 500-station rural dial exchange of 100 lines to be constructed without toll lines or toll equipment. All traffic operation would be handled by a distant (20-mile trunk) operator office. Personnel would include one combination manager-maintenance man, one lineman and one female clerk. This exchange would be owned by the borrowing organization—cooperative in the cases of (1), (2), and (3)—privately owned in the cases of (4) and (5)—with money borrowed from the federal government at 2 per cent.)

Land	$ 500
Building (Including business office space)	5,000
C.O.E. (100 lines dial equipment, $100 per line)	10,000
Station equipment (500 stations at $46 each, including block and drop wire)	23,000
Outside plant (500 stations at $252 each)	126,000
General equipment:	
1 Truck	2,500
Furniture	500
Total	$167,500
Material and supplies plus working capital	3,000
Total capital requirements	$170,500

The foregoing shows the plant investment set-up. Expenses naturally vary under each of the five foregoing situations. So, this writer sets forth below the varying expense computations in each case:

(1) Assuming a Cooperative Set-up with the Entire Indebtedness Borrowed from REA at 2 Per Cent for 35 Years

Annual Expenses:	
Salaries:	
Manager	$ 3,500
Lineman at $1.35 per hour.	2,800
Clerk at $0.75 per hour (minimum)	1,560
Total	$ 7,860
Debt repayment (assumes 35-year loan repaid in 35 equal payments)	4,870

REA REQUESTS TELEPHONE PRODUCT DATA FROM MANUFACTURERS

The Rural Electrification Administration has announced that it is preparing a list of acceptable materials and equipment for use on REA-financed telephone systems and that it has asked manufacturers for information on any of their items which they would like REA to consider listing.

The request was sent to manufacturers on REA records and that agency is not certain if its records include all firms which have acceptable telephone products. REA has asked TELEPHONY to make this announcement so that manufacturers who did not receive REA's inquiry could file appropriate information on their products. They should direct their correspondence to Rural Electrification Administration, U. S. Department of Agriculture, Washington 25, D. C.

Following is the text of the REA letter sent to manufacturers:

"In connection with the rural telephone program of the Rural Electrification Administration, it is planned to establish a list of acceptable materials and equipment for use on REA borrowers' telephone systems. The establishment of such a list in final form will require some time to complete as specifications will need to be prepared and each item will need to be considered by the REA Technical Standards Committees.

"As an interim measure, so that construction of early systems can be expedited, a suggested list of materials is being prepared. This list no doubt will be utilized as a guide in the preparation of the final list.

"In undertaking the preparation of the interim list, the *hardware* items on the enclosed list were selected initially. It is requested that you review the list and determine what products listed, if any, are manufactured by your company. If you desire to have your products included on this list, please supply information as follows:

"(a) Description of item
"(b) Catalog number
"(c) Dimensions where appropriate
"(d) Results of tests
"(e) Any specifications applying
"(f) Other information which would assist in evaluating the suitability of the product.

"It is intended initially that items complying with applicable specifications of the Edison Electric Institute, American Association of Railroads or the American Telephone & Telegraph Co. will be considered satisfactory. For items which do not comply with any specifications of these organizations, information should be supplied indicating the design specifications applying.

"We are anxious to complete this portion of the list as soon as possible. We will appreciate receiving information on your products at your earliest convenience."

Maintenance material—$4.00 per station	2,000
Depreciation fund (assume 3.5 per cent on depreciable plant of 167,000)	5,845
Traffic operating expense (determined from study of a sample group of similar offices)	5,150
Taxes (Excluding federal income tax)	4,300
Miscellaneous—to cover insurance, directory, auditing, etc.	1,500
Interest on unpaid balance (assume all money borrowed at 2 per cent)	1,705
Total Expenses	$33,230

Since this is to be a cooperative there will be no federal income taxes. Also, since there is to be no profit, total revenues should equal total expense, therefore—

Revenues

Local Revenues	$23,315
Toll Revenues (determined by use of study of sample office mentioned above	9,800
Miscellaneous Revenues	115
Total	$33,230

Therefore, the monthly local revenue requirements would be $23,315 ÷ 500 (subscribers) ÷ 12 months = $3.90.

* * * * *

(2) Assuming a Co-op Set-up with $50 Subscriber Contribution Without Return

Expenses

No change from (1) above	$26,655
Amortization of $170,500 less $25,000 (contribution) over 35 years	4,160
Interest on $145,500 at 2 per cent (on unpaid balance)	1,455
Total Expenses	$32,270
Total Local Revenue Requirement [$32,270—(9,800+115)]	$22,355
Monthly rate requirement	$3.72

* * * * *

(3) Assuming Co-op Subscribers Receive 1 Per Cent Return on $25,000 Invested

Expenses

Same as above	$32,270
1 per cent of $25,000	250
Total	$32,520
Local Revenue Requirements [$32,520—(9,800+115)]	$22,605
Monthly rate requirement	$3.77

Monthly requirements for each 1 per cent of return for investor $.05.

* * * * *

(4) Assuming a Non-cooperative, Taxpaying Set-up Returning 6 Per Cent to Subscriber Investors ($50 Each)

Expenses from (2) above	$32,270
Federal income	315
6 per cent return on $25,000	1,500
Total	$34,085
Local Revenue Requirements [$34,085—(9,800+115)]	$24,170
Monthly rate requirement	$4.03

* * * * *

(5) Assuming a Non-cooperative, Taxpaying Set-up, Earning 6 Per Cent on Capital (with One-third Debt Ratio at 3 Per Cent)

Expenses from (1) above (Salaries, maintenance, material, traffic, taxes. misc.)	$20,810
Depreciation at 4 per cent	6,820
Return of 6 per cent	10,230
Federal income tax	1,950
Total	$39,660
Local revenue requirements [$39,660—(9,800+115)]	$30,265
Monthly rate requirement	$5.00

It will be seen from the foregoing study that, theoretically, the plant would be clear of debt at the end of 35 years. It would be necessary to assume, of course, that there would be no expansion—which is a rather arbitrary assumption. But it makes our case studies more simple. In other words, if depreciation reserve was used to replace equipment over the 35-year period, the owners would end up with a scot-free plant. And what would happen then? This is still theoretical, of course, but it is a very interesting commentary that even under such circumstances it would be necessary to charge about $2.90 monthly rate, just to carry the plant.

Post Office Compared with Bell System

An interesting news release from Washington, last week, came from the Council of the State Chambers of Commerce. It compared the government's management and operation of the U. S. Post Office Department with the telephone business. Here is the sad deficit record of Uncle Sam's mail service for the past five years:

Year	*Postal Revenues*	*Post Office Expenditures*	*Postal Deficit*
1946	$1,224,572,173	$1,353,653,679	$129,081,506
1947	1,299,141,041	1,504,798,756	205,657,715
1948	1,410,971,284	1,687,805,436	276,834,152
1949	1,571,851,202	2,149,322,128	577,470,926
1950	1,640,000,000	2,209,000,000	569,000,000

That amounts to an extra tax of $4.00 (considering 1950 figures only) on every man, woman, and child in the country. Comparatively speaking, the council study found that post office officials have no knowledge whatever of the total value of the department's vast property holdings. By way of contrast, it was a perfectly easy matter to ascertain that the value of all physical property owned by that other great enterprise in the communications field—the privately owned and operated Bell System—totals $9½ billions.

Incidentally, federal, state and local taxes imposed on the Bell System in 1949 totalled $346,144,000—enough to pay the transportation costs (rail, air, etc.) of all domestic mails last year. In addition to this, the Bell System acted as agent for the government in collecting $445 millions in federal excise taxes on telephone calls last year—this at negligible cost to Uncle Sam.

The council recommended to Congress the following steps in relation to the postal service: (1) Approval of a $28,000,000 cut already made by the House in 1951 appropriations; (2) reorganization as recommended by the Hoover Commission in the interest of efficiency and economy; (3) approval particularly of the Hoover recommendation that postmasters (20,000 of them) be appointed on a merit basis, and (4) Senate passage of a House-approved bill to increase postal rates.

V V

TV Installations Bulletin Recommends Safety Measures

The National Board of Fire Underwriters has issued a revision of its bulletin on television installations as considered from the fire and lightning hazard standpoint.

The bulletin states that the necessity of increasing the elevation of the television antenna with the distance from the station increases the possibility of damage by lightning and high winds. It recommends installation of approved lightning arresters. If the antenna is mounted on a metal pole or tower, the pole or tower should be grounded.

As for television sets, the bulletin states that particular care should be taken that the natural ventilation built into the set is not obstructed or reduced by location or blanketing. It is generally considered that a television receiver has a greater inherent fire hazard than a conventional radio receiver because of its greater current consumption, a greater number of heat producing components and the higher voltage used.

Television sets of several manufacturers have been listed by Underwriters' Laboratories, Inc., as having been acceptably designed and constructed with respect to fire and life hazard. Prospective purchasers should assure themselves that the set they contemplate purchasing has been listed by the Laboratories, the bulletin states.

V V

Named Plant Superintendent

William Stearns, with 35 years' experience in the telephone business, has assumed duties as plant superintendent of the Conneaut (Ohio) Telephone Co.

Mr. Stearns succeeds Charles F. Halyday who died May 16 after serving the company for 37 years.

"TAXES ANONYMOUS"

By T. HOLDEN MORAN
President
Commonwealth Telephone Co.
Madison, Wis.

YOU are probably all familiar with the organization which calls itself Alcoholics Anonymous. That's a fine way to start a speech at a telephone convention. Anyway, it was originally founded by a relatively small group of human beings who were willing to publicly admit that they could not control their appetite for alcoholic beverages. Given one drink, they needed two and, after the second, they were on their way to a good old-fashioned binge. These individuals soon found themselves broken physically and financially, but they escaped the usual fate of other alcoholics by recognizing their appetite as a disease which could be controlled only through the exercise of self-denial, frequent discussions of past habits, and the constant reminder of the pain and suffering, both to themselves and to others, which always resulted from having taken that first drink.

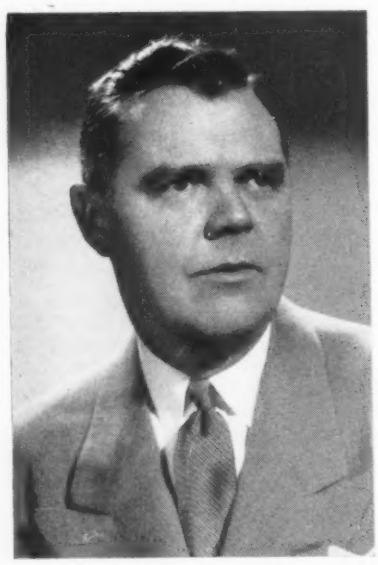
Since its formation, this organization has helped thousands of fellow sufferers to return to normal useful lives through the application of the simple theory that, if you are unable to practice moderation in any of your habits, then abstain completely from those things taken or done in excess.

Now you can't stop eating and live, but you can eat in moderation and you will probably live longer if you resist the temptation of eating everything in sight every time you sit down to a meal. I suppose those of us who are overweight might well form an organization called Eaters Anonymous.

Our government likewise cannot live without taxes. Expenditures must of necessity be made for the general welfare and the public good, but I am inclined to believe that our spending habits are getting out of control and that the time has arrived when, if we wish to continue our American way of life under a system of free enterprise, we had better begin to practice moderation. I suggest that the time has come for the formation of Taxes Anonymous.

In 1929, the total United States budget was about three billion dollars, or approximately two-thirds of the personal income of the residents of California. Last year, the budget totaled 43 billion 500 million, or roughly, the entire income of all persons living west of the Mississippi. Twenty years ago, the federal government had fewer than 600,000 civilian employes. Today, more than two million are on the payroll, occupying office space equivalent to 170 Empire State Buildings, each 102 stories high.

One more comparison—in the five peace-time years, 1927 to and including 1932, the federal government spent slightly more than 19 billion—in the



T. H. MORAN

five peace-time years, 1936 to and including 1940, the federal government spent slightly more than 42 and one-half billion — in the five-year period from 1947 to and including the proposed budget for 1950, the expenditure is 202 billion—from 19 billion to 42½ billion to 202 billion. To my way of thinking, that's going right along.

Now a billion dollars is beyond the imagination of the average individual's concept of wealth. Yet, here we are putting our stamp of approval on the spending of hundreds of billions. I say we approve it because, if our elected representatives in government continued on this spending spree and we as the electorate opposed it, the spenders would soon be out of office. I wonder, however, if we would really approve of this ever increasing federal spending if we as average citizens really understood all of the facts as to what is really going on.

You may have heard this statement made, "I don't care anything about this tax business, I've got four kids and pay out some interest on a lot I'm buying. Actually, the government gives me a refund on the withholding tax the company takes out of my pay." Or, "What do I care, let the big corporations and the rich people pay for it."

Now, first of all, only half of the federal government's revenues and only 10 per cent of state and local receipts come from direct taxes on personal income. The rest comes from taxes on business organizations and these taxes in turn are passed on to the consumer in the form of higher prices. As a result, for most people, that is, nine out of 10 taxpayers, or to say it another way, those with incomes of less than $5,000, the hidden tax burden is heavier than the income tax.

I would like to refer you to the magazine *Newsweek*, issue of Dec. 12, 1949. In an article entitled, "And That's Where Your Money Goes," the following excerpt appeared:

"Taxes accumulate all along the way from raw material to finished product on the store shelves. And at that point many states and cities add a retail sales tax. The Tax Foundation, a research organization which studies government spending and taxes, has discovered 150 taxes levied on the manufacture and sale of a woman's hat, 116 taxes on a man's suit of clothes, 151 on a loaf of bread, and at least 100 on a dozen eggs.

"This year the average family will pay $69 in liquor taxes, $45 on tobacco, and $49 in the cost of gasoline. Property taxes—some paid directly, others indirectly in rents and prices—amount to $177 per family. Sales taxes will take another $48. And corporation income taxes—which the consumer also pays in the form of higher prices—will take a whopping $317 out of the average family's purse.

"Some economists do not believe that all business taxes, especially the corporation income tax, come out of the the consumer's pocket. But the evidence is impressive. G. Sidney Houston, Minnesota banker, points out that in the three prosperous years, 1927-29, net income after taxes of corporations

which reported a profit amounting to 7.45 per cent of gross income.

"Since then, there has been a three-and-a-half-fold jump in corporation income tax rates; hundreds of other business taxes have also been boosted. Yet in 1946, despite price control, profits after taxes were 6.89 per cent of gross income. 'It seems rather clear,' says Houston, 'that corporations did everything in their power to pass on to their customers practically all tax increases.' "

You may have had the opportunity of seeing the last week's issue of TELEPHONY (May 6 issue). On page 15 there appears an impressive illustration of 30 hidden taxes. To name a few:

A 21-cent quart of milk includes eight cents for taxes.

A 15-cent loaf of bread includes five cents for taxes.

A 70-cent piece of meat includes 20 cents for taxes.

A seven-cent bar of soap includes two cents for taxes.

A 47-cent can of baby powder includes 18 cents for taxes.

A 60-cent movie ticket includes 20 cents for taxes.

A nine-dollar pair of shoes includes three dollars for taxes.

A 2,100-dollar automobile includes 700 dollars for taxes.

A 10,000-dollar house includes 3,000 dollars for taxes.

It is always a source of amazement to me that the average American citizen is not vitally tax conscious. We so often hear and talk about the "government" (and I quote that word) doing this or spending that. Who is this government? It is a composite of every citizen. The government as such is only a name. It can produce nothing. Everything it does and everything it has is done for it and given to it by the people and their businesses. I previously mentioned the fact that there are two million civilians on the federal payroll. I should have qualified that. You and I work for the government. One dollar out of every five that we as telephone people earn is absorbed by the federal government. The average citizen works 47 days each year just to pay federal taxes.

I have this suggestion to make to those who think we are not paying taxes and to those who think someone else is paying the freight. Let's drop from our vocabulary the word "government" and substitute therefor the phrase "wage earners and consumers," so that when we read the Washington dispatches that now say the government plans to spend several million dollars on a projcet, the wording will be that the wage earners and consumers plan to spend several million dollars on a project. I would suggest one thing more in this matter of wording. Let's drop the word "Congress" from our vocabulary and use instead the word "voters," so that, in the future, the record will show that the voters approve the 50 billion dollar 1950 budget, not the Congress.

On May 10 of this year in Pendleton, Ore., the President of the United States defended the present policy of spending more than we make (deficit financing, it's called). He said he favored this program in order to prevent a third world war and as a sensible investment in the nation's future.

I refer you, however, to the Hoover Report, which is the short title to the findings of the Citizens Committee for Reorganization of the Executive Branch of the Government. Incidentally, this committee was comprised of men having no political ambition nor hope of material gain. It is strictly a fact finding —let the chips fall where they may— independent, impartial group, interested in the future well being of their country. It is comprised of men of many political faiths.

The report is sometimes complimentary of the work and efficiency of some government bureaus and agencies but, in so many instances, the waste and inefficiencies discovered are so wanton as to be tragically humorous. Here are some of the findings:

In the discussion of the Department of Agriculture, the report states, "The department has grown to its present size without sufficient attention being given to its parts as a whole. It is in many ways a loose confederation of autonomous bureaus with a strong tendency to develop independent, overlapping, and duplicating programs." As an example, the commission's task force found that in one cotton producing county in Georgia, 47 employes attached to seven separate field services of the department were advising 1,500 farmers.

A Missouri farmer, who had asked the department for information about fertilizer, received conflicting advice from five different field services.

In Maryland, 88 employes of seven different services were giving advice to fewer than 3,400 farmers.

Going on to the Department of the Interior, mention is made of a contest that is going on between the Bureau of Reclamation and the U. S. Army Corps of Engineers. The competition occurred in the Missouri Basin development. Here the engineers were dredging a channel of doubtful value to navigation, in the bed of the river. Meanwhile, upstream, reclamation was building a dam for irrigation purposes which would hold back needed water for the ship channel. Public clamor over this situation forced these two agencies together, for once, and they are now cooperating on this project, known as the "Pick-Sloan Plan." It may eventually cost the nation six billion dollars and the Hoover Commission says that it still will not serve the valley adequately because it is a patchwork, non-integrated program.

The Bureau of Reclamation of the Interior Department began an ambitious project to drill 13 miles through the Rocky Mountains and to supply farmers on the eastern slope with water pumped from the Colorado River on the west. It made contracts with the farmers for this supply. The Bureau estimated the cost at $44 millions. So far, $68 millions has been spent and the Bureau has fixed a new probable cost of $144,581,000. But now, with the work in progress, the bureau has discovered that the Colorado will not supply enough water to carry out the contracts with the farmers. It is now hunting for new sources of water and we shall be lucky to get off with a $200,000,000 expense.

The report goes on to say that this underestimation of cost is typical. The figures supplied by the Izaak Walton League of America, which made a study, show that in 16 reclamation bureau projects the cost was underestimated by more than $443 millions.

Twelve federal agencies are engaged in home and community planning—65 in gathering statistics—75 dealing with transportation—and 56 concerned with public health.

Cost of processing a government purchase order averages $10. Last year the federal government made more than 3,000,000 purchases. Over one-half were for items costing less than $10.

Many Americans hesitate to recommend reductions in the national defense budget. However, if the Army, Navy, and Air Force could agree on uniform underwear, seven million dollars a year could be saved.

The federal government owns 848,567 typewriters or 3.6 typewriters for every stenographer and typist on the payroll.

Bookkeeping is so haphazard in the Veterans Administration that basic records covering 167,289 cases of national life insurance coverage cannot be found.

The Army tore down a $16 million camp in Alaska and shipped the lumber to Seattle, Wash., where it was acquired by the Department of the Interior, which shipped it back to a point less than 10 miles from the original camp site.

Because of the red tape surrounding federal civil service, it is almost impossible to discharge incompetent help. For example, it required 27 months to

discharge one inefficient stenographer. On the other hand, turn-over in government personnel amounts to 25 per cent yearly.

The federal government is the world's number one publisher. Its printing costs amount to more than $55 million annually. It prints and distributes such masterpieces as "Interaction of Sex, Shape and Weight Genes in Watermelons," "Mist-netting for Birds in Japan," and "Habits, Food and Economic Status of the Bandtailed Pigeon."

Now will someone please tell me what such goings on have to do with preventing a third world war, or what they contribute to the sensible investment in the nation's future. The Hoover Report estimates a five-billion dollar saving could be effected through corrective measures and five billion dollars is the amount of our current deficit.

Now what can we do about all this?

A few years ago, while working in Indiana, we undertook to canvass folks outside the telephone business to solicit their help in eliminating the excise tax on telephones and telephone messages. I talked to bankers, farmers, businessmen, housewives, and a few teachers. The average response was, "What difference does it make, if they take the tax off telephones, they will add it on to something else." When I got back home, it occurred to me that not a single person had suggested there be a general tax reduction supported by economy of government. Being young and ardent in the cause, I judged these people to be fatalists, with all the fight taken out of them. I was sure that on a national scale the spirit was not dead. Yet the press association release of May 11, under the heading "Taxes," reports as follows:

"The House Ways & Means Committee, after approving cuts of about $1,000,000,000 in excise taxes, began voting this week on proposals to boost other taxes to make up for lost excise revenues."

I repeat, what can we do about all this?

First of all, avoid the lure of the "something for nothing" bait that is so frequently urged upon you. The recipient accepts his subsidy check and blesses the government. He then damns the public and industry generally for higher and higher prices. Think of it this way: In mathematics, we are taught that $1 \times 1 = 1$, $2 \times 1 = 2$, $3 \times 1 = 3$, but what does something times nothing equal—nothing. In the something for nothing theory, place any value or commodity on the *something*, call it $1,000 or call it a home, multiply it by nothing and what have you got. The increased taxes or prices that you will pay will very shortly offset the savings you could have accrued with which to amass $1,000 or to build a home on your own and, in addition, you won't be saddled with paying for someone else's $1,000 or someone else's home.

Second, avoid purely selfish interests in dealing with national problems.

The average individual is inclined to support or oppose legislation only if he can see in the printed language of the measure something that will directly benefit or harm him or his business.

We should realize that every piece of legislation brought before the Congress brings with it powerful lobbies, both pro and con, and our Congressmen, being human, succumb to the most powerful. If you and I would add our voices in support of or in opposition to most major legislation, our representatives in Congress would know how we feel and be guided by the will of the majority, not by the pressure of a lobbying group. Remember this, in the average session of Congress, only about 10 major pieces of legislation are brought to the floor and, surely, we can afford to take time to express our views on such a small number of issues.

I cannot stress too much the power of a letter to your congressman, but, if he only hears from you on matters affecting the telephone business, he is inclined to think of you as being just as selfish as the organized lobby group.

Third, inform your friends and employes of what is taking place in Washington. The most carefully guarded secret in government today is the matter of taxes. Yet more and more civic minded groups are discovering the truth concerning taxes and national magazines are devoting much space to the subject. Pass these perodicals along. Reprint these articles in your house organs and newsletters. Let John Doe and Mary Roe find out what the real story is. Don't talk politics, talk pocketbook.

Elmer L. Lindseth, president, Edison Electrical Institute, recently stated: "We will get the support from the man in the street only when we show him that after all it is he who is being hurt and unfairly treated. Not until we show him that it is his savings and his children's future savings that are today being taxed away from him will he be on 'our' side—which in reality is 'his' side."

I am convinced that, if we and our friends and neighbors interest ourselves in the subject we will be contributing a great deal to the welfare of our country.

I previously referred to a statement made to the effect that deficit spending was the thing to do in order to prevent a third world war and to make sensible investments in the nation's future. I ask you to compare this statement with the Treasury Department's current slogan supporting the purchase of savings bonds. The slogan is, "Save for *your* Independence." Let's call on Washington to save for the independence of all of us.

(The foregoing is an address presented before the recent Wisconsin convention.)

VOTING IS AN AMERICAN'S DUTY

The failure of millions of Americans to exercise their right to vote is a national disgrace.

In the last Presidential election, for instance, less than half of the eligible voters troubled to go to the polls. In many elections in which the Presidency is not involved, less than a third of the voters cast ballots. What we have, as a result, is government by minority.

Free elections are at the root of all our freedoms. But free elections mean little if the people are too lazy or too indifferent to participate. A man who does not vote has no moral right to criticize the acts and policies of officeholders.

When you vote you are building on the foundation of the best system of government ever devised. And that is as true of primary as of general elections. In the near future, primaries will be held in many states. The candidates of the parties will be chosen and will start their campaigns for election in November. If you want your party to nominate the candidate you believe best fitted, go to the polls.

If you value your freedom—if you have any interest at all in defending and maintaining a free nation—vote. Vote in every election, whether it involves a President or local officials. Every time you fail to vote, you fail to discharge the most basic American duty.

MAINTENANCE TESTING EQUIPMENT

By JOHN A. BRACKEN

BECAUSE of the extensive use of dry batteries to supply testing equipment operating current, proper maintenance of these batteries involves systematic upkeep, like any other plant maintenance procedure.

It is always easy to neglect a battery that is in service when all is going well. However, if the battery is not in good condition and fails because of inattention, this fact will soon appear as an interruption to the satisfactory operation of the testing equipment.

Doubtless, the greater percentage of deterioration of dry batteries in service develops through natural and unavoidable causes. Properly applied maintenance principles will greatly assist in prolonging the period of useful life of dry batteries.

Although the useful life is in proportion to the battery's normal use, consideration must also be given to such variables as construction, size and age, shelf depreciation, duration of discharges, rest periods and circuit voltage limits.

Some of the chief indications of failure in a dry battery are:

(1) Falling off in voltage during discharge is an indication that internal trouble has developed. This trouble may be of such nature that if its cause is discovered and removed, the battery can be restored to its normal condition, or the trouble may be such that the battery has gone beyond the point where it can be of any further use.

(2) Short circuits within or outside the battery, or abnormally high current drains caused by circuit troubles, are very likely to keep the battery in a more or less discharged condition. Short circuits tend to cause leakage of the electrolyte as evidenced by wet containers.

(3) The presence of certain conditions in the battery which cause loss of capacity, a term used to indicate the quantity of electricity which can be taken from a battery for a definite time. If loss of capacity in the battery is due to impurities in the mix, or to aging either from improper discharging or from long service, usually there is no remedy but to replace the battery.

PART XXXI. The preceding article in this series appeared in the June 3 issue, p. 20.

(4) Ground in wiring, which means that if one terminal of the battery is normally grounded, one of the current carrying parts of the test equipment wiring might come in contact with some metal that is grounded.

(5) Temperature changes. Freezing, for example, in some cases may be very destructive to a dry battery. When freezing occurs, water crystals separate from the body of the electrolyte within the cell, and tend to cause some expansion of the active materials (mix).

(6) Battery discharges too fast, that is, the faster the battery is discharged the more rapidly the voltage drops.

(7) Under some conditions, bulged battery cases result from abnormally high temperature.

(8) When the chemicals in a dry cell have been exhausted due to current output, no more electrical energy is supplied. This condition results in an increase in the internal resistance and a decrease in the working EMF of the cells.

Some items relating to the care and maintenance of dry batteries follow:

(1) Individual dry cells and battery blocks showing bulging or leakage of electrolyte should be discarded and replaced by new ones.

(2) Batteries should not be stacked on top of each other without some means of individual support.

(3) The top of dry batteries should be kept clean as they may become covered with dirt or other foreign substances which in time might damage the batteries.

(4) Corrosive salts which may form on the terminals of a battery should be removed.

(5) Because of the chemical action and the swelling of cells after the zinc has been eaten through, old dry cells should not be left in cases of the flashlight type or similar container.

(6) Since the EMF of dry cells drops rapidly if they are required to supply a steady current flow, the least amount of current should be drawn steadily from the battery.

(7) Corroded terminals may prevent the battery from delivering sufficient current when required. This is because the products of corrosion are practically non-conducting substances which form a layer between the battery terminals and the connecting leads. If the battery connections are corroded they should be cleaned.

(8) Connecting wires between dry cells should be examined for temperature rise when the battery is being used. If they heat, the cause is poor contact, which should be corrected.

(9) All wiring should be tightly and correctly connected.

(10) A battery should be located where it will not be disturbed and where associated wiring is not likely to be damaged.

(11) Batteries should be installed in such a way that the cells will be in a vertical position.

(12) Wiring between batteries and maintenance testing equipment should be either cable, wire or cords of sufficient size to reduce the voltage drop to a minimum. Sufficient slack should be left in the wiring so that the batteries may be lifted out for inspection.

(13) At the time of installing new batteries and making replacements, the date should be marked on each cell or battery.

(14) When the installation of a second battery is required, as in cases where power requirements are exceptional because of an unusual amount of current drain, it would be best to connect an additional battery of a like number of cells in parallel with the first battery.

(15) When testing batteries containing sets of cells connected in parallel, they should be disconnected from each other and tested separately. The results of the tests should include not only an analysis of the condition of the batteries but an analysis of any abnormal condition found. The cause

(Please turn to page 35)

My Boss and I

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TOLL COMPLETION

By MERLIE MARKUSON
Traveling Chief Operator
Lincoln (Neb.) Telephone & Telegraph Co.

THE accuracy and promptness with which toll calls are completed are an important factor in furnishing entirely satisfying service to our customers, in making your and the operator's job easier and giving a greater satisfaction in accomplishment.

While our practices and procedures are directed toward the completion of calls, only through an understanding of the importance and a keen desire by each and every one of us to complete all calls, can we meet our responsibility of furnishing the best possible service to our customers.

This can be accomplished by following these steps.

(1) *Keep on the Trail.* If the called party is not at the first telephone, try to find out if he can be reached at another.

(a) Secure a definite report at the first telephone.

(b) Give complete report to calling party.

(c) Immediately offer to try second telephone.

(2) *Don't Keep Your Customer in the Dark.* Don't cut your customer out of the connection. Let him know what progress is being made on his call. He may be able to help by:

(a) Hearing reports and progress of call.

(b) Volunteering further directions or more information for reaching called party.

(c) Giving disposition of call, if not completed on the first attempt.

(d) Do not cut out of connection, except to perform work which no other operator should do.

(3) *Get the Message Through.* If you cannot reach the called party, ask whether an alternate party will be satisfactory.

(a) Secure definite reports on first party.

(b) Ask if calling party will talk with anyone else.

(c) Secure correct name of alternate party.

(d) Pass information promptly to called station.

(e) If alternate is not available, ask if he can be reached at another telephone.

(f) Offer to reach alternate party at second telephone.

(4) *Write It Down.* If you are unable to complete the call, be sure the AG time or subsequent report time is properly entered on the ticket.

(a) Enter correct subsequent attempt time.

(b) Make ticket entries clear and neat. If calling party changes ticket directions make the necessary corrections legibly.

(c) Enter such reports and orders as are necessary to show the action taken.

(d) Enter reports in the order received and while they are being received.

(e) When the customer specifies the time at which he wishes the call tried, be sure and enter "AG" with the time.

(5) *Don't Get the Wrong Party.* Be sure and get the correct name of the called party. Avoid embarrassment and delays in completing the call.

(a) Permit the customer to place his call in his own way, do not interrupt.

(b) Verify any detail of which you are in doubt.

(c) Enter all details such as, initials, first name or any title given.

(d) If call is placed for more than one person at the same telephone enter the names in the order given.

(e) Verify similar sounding names and letters.

(f) When announcing call pronounce name clearly and distinctly.

(6) *Get There One Way or Another.* If you can't secure a circuit on first route, try an alternate if authorized.

(a) If NC is encountered check immediately for alternate route.

(b) Keep trying alternate route every three minutes if authorized to do so.

(c) Request assistance if unable to take action upon receiving a circuit available signal.

(d) Leave a call order whenever necessary.

(e) Refer all NC reports to the supervisor if locally directed to do so.

(7) *Timing Is Important.* If you can't complete the call on the first attempt, be sure the calling party knows when you will have the call tried again so that he will be ready to talk.

(a) If called station is DA, advise calling party when call will be tried again or try to secure an AG time.

(b) If the report has not been received in the hearing of the calling party, give it in full.

(c) If calling party has not been holding line, identify the call before giving the report.

(d) On all indefinite reports try to secure "AG" time from customer.

(e) Secure calling party's line before making subsequent attempt.

(f) If a definite time has been specified in the report, advise the customer that you will call again at the specified time.

(8) *If You'll Be Late.* Let the calling party know. . . . If you can't make the attempt at the specified time, let the calling party know about it. Remember *he is waiting.*

(a) Make subsequent attempts on time.

(b) If leave words are delayed, ask for assistance from the adjacent operator, or refer the condition to the supervisor.

(c) If "NC" exists beyond the report time, call the customer and report the status of the call.

(9) *Hold That Line.* If you are NC, hold the calling party for a full minute. Give your entire attention to trying to secure a circuit on either the first or alternate route if authorized.

(a) When a circuit becomes available and you are unable to take action, because of another call, request assistance immediately.

(b) Try alternate routes as often as directed.

(c) Continue to hold calling line 10 minutes. While holding, be alert to secure available circuit on any authorized route.

(10) *Never Say Die.* Make subsequent attempt to complete call at times specified in the schedule, unless requested to do otherwise by the calling party.

(a) Enter correct subsequent attempt time on ticket according to schedule of subsequent attempt time.

(b) If an AG time is not given, use good judgment in determining a subsequent attempt time.

(c) On direct circuit busy calls, make two subsequent attempts at five-minute intervals. If built up, hold for the full five minutes.

(d) On PBX extension or room telephone BY at the end of time allowance, leave word and make attempts

at 20-minute intervals until different report is received. If DA leave word and proceed as on a station DA.

(11) *Don't Be a Hit and Runner.* If you can't complete the call on the first attempt, secure definite information from the calling or called station which will permit a later completion.

(a) Allow the full period of ringing before giving DA report.

(b) If customer indicates that he will not be at the calling station later, offer to try the call and call him at another telephone.

(c) If unable to complete the call that day, offer to carry call forward to a future date.

(d) Carry forward calls that are "hold for AG" and make an attempt to complete on the following day.

12. *Above All, Complete the Call.* An uncompleted call helps no one. Our job is to complete the call.

(a) Completed calls mean satisfied customers.

(b) Good service to the customer means fast courteous service.

(c) Completed calls mean increased revenue.

(d) Completed calls mean job satisfaction.

Conclusion

From the points we have discussed, by adhering to regular methods we are assured of a good percentage of completion, which naturally is more satisfactory service to the customer.

We have also fufilled our obligation as it is our ultimate aim to complete the call. *"A Completed Call Benefits All."*

(The foregoing is an address presented at the traffic conference of the recent Nebraska convention.)

V V

Advocates Amalgamation of Independent Companies

Amalgamation of Independent telephone companies—a perennial problem in the business—was urged again on delegates to the Western Counties Telephone Association at the 40th annual meeting in London, Ontario, Canada.

Addressing 175 members representing 53 Ontario telephone companies, Honorary President James A. McDonald of Toronto said amalgamation was the only answer to better service.

William Dutot of Comber was elected president. Other officers include: First vice president, R. M. Ross, Thorndale; second vice president, A. Roy Chapman, Inwood; treasurer, Dr. W. O. Dean, Harrietsville; treasurer, S. Adamson, Kirkton.

The Chenango & Unadilla Telephone Corp., Norwich, N. Y., cut over to unattended dial operation another one of its small exchanges at Masonville on Apr. 25. The Masonville exchange is one of 11 to be served by unattended systems. The company has also constructed a new headquarters building at Norwich and occupied it late in May. Left photo shows the type of unattended dial exchange building constructed by the company. BARTON L. GIFFORD (left), equipment engineer and GEORGE E. SHOEMAKER, assistant general manager, are shown. Right photo shows FRANK L. OLSTRANDER, who threw the switch for the dial change-over at Masonville. Mr. Olstrander owned and operated the first telephone company at Masonville. For his pioneer work in the field of telephony, WILLIAM A. SEELY, president and general manager of Chenango & Unadilla company, honored him. The rehabilitation and conversion program will ultimately total $3¼ million, of which $1½ million were raised locally.

"If we can give a service at equal or better rates than the Bell Telephone Co., and operate as efficiently, then there is a place for us," Mr. McDonald said.

"The pressure is not coming from the Bell Telephone Co. The general public is demanding better and more telephone service. If we can meet that demand the future is assured for us. If not, we had better get out of the way and let someone else do it."

On the same topic, past-president Spencer McConnell of Port Burwell said that the "great opportunity" for reconstruction lies in amalgamation of many of the companies in Ontario.

"Two hundred and twenty-six telephone systems have less than 60 subscribers," he pointed out.

V V

A. B. Goetze Elected Operating Vice President of Ohio Bell

Arthur B. Goetze, vice president of the Chesapeake & Potamac Telephone Companies, was elected operating vice president of the Ohio Bell Telephone Co. on June 23. He succeeds John A. Greene, who has been elected president of the Michigan Bell Telephone Co. Mr. Goetze was also made a member of the board and the executive committee.

He has spent his entire business career in the Bell system. He started at the age of 16 with the Western Electric Co., following his graduation from high school in Chicago, where he was born.

He began as a draftsman with Western Electric in 1917, continuing his studies in electrical engineering by attending evening classes. World War I interrupted both his career and night studies, but after serving in the navy, he returned to Western Electric and held positions of increasing responsibility in the company's engineering, distribution and accounting divisions.

He was transferred to that company's New York headquarters in 1928, moving up to the job of requirements engineer in 1935 and to personnel assistant to the general manager of the telephone sales divisions in 1937.

Mr. Goetze became personnel director of Western Electric in 1943. Five years later he was appointed works manager of the Tonawanda, N. Y. and Allentown, Pa. plants and the 42nd Street Shops in New York. A year later he also became acting manager of the Point Breeze Works in Baltimore.

His election as personnel vice president of the C&P Companies, with headquarters in Washington, came in July, 1949.

V V

Lamberson Assumes Post In North Carolina

E. E. Lamberson, Sumter, S. C., for the past seven years general plant superintendent for the South Carolina Continental Telephone Co. and the Sumter Telephone Co., has announced his resignation from those companies to assume managerial and engineering duties with the Carolina Mountain Telephone Co., Enka, N. C., and the Western Carolina Telephone Co., Franklin, N. C.

Mr. Lamberson has recently completed 21 years in the telephone business, having been employed by the Missouri Telephone Co., Macon, Mo., for 10 years immediately prior to his transfer to Sumter in 1939. In 1943, he was appointed plant superintendent of the South Carolina Continental and Sumter companies.

Courts and Commissions

Zenith Phonevision Offers Withdrawn, FCC Notified

Zenith Radio Corp. has informed the Federal Communications Commission it has withdrawn all offers to radio manufacturers of contingent credits against fees on Zenith's phonevision television system (TELEPHONY, July 1, p. 25).

In a reply to a letter from the commission last week, John R. Holland, assistant to Zenith's president, said that letter was a "clear indication" that the commission did not approve of Zenith's plan for getting phonevision decoder outlets into a large number of television sets now being built.

Since the corporation has stated before that it would discontinue its plan if the commission felt it was not in the public interest, Mr. Holland stated it has now notified all manufacturers who had shown any interest in its plan that the offer has been withdrawn.

The plan referred to was one used by Zenith while awaiting FCC approval of its pay-as-you-see television system. Phonevision is a method of sending special television programs over telephone wires to subscribers. The commission originally authorized a test period for the device last February, but Zenith applied for a postponement until next fall.

V V

Authorizes New Rate Schedules For Five Independents

Rate increases were granted to five Independents recently by action of the Illinois Commerce Commission. Companies and their new schedules follow:

Southeast Missouri Telephone Co., Cape Girardeau, Mo.:

Class of Service	*Net Annual Rates Present*	*Authorized*
Thebes Exchange		
Business		
One-party	$30.00	$57.00
Two-party	27.00	51.00
Rural multi-party	27.00	37.80
Residence		
One-party	$18.00	$37.80
Two-party	15.00	31.80
Rural multi-party	18.00	30.00
Service Stations	6.00	7.20
Tamms Exchange		
Business		
One-party	$36.00	$57.00
Rural multi-party	24.00	37.80
Residence		
One-party	$24.00	$37.80
Two-party	21.00	31.80
Rural multi-party	18.00	30.00
Watson Telephone Co.		
One-party bus.	$12.00	$18.00
One-party res.	12.00	18.00
Rural m-p. bus.	12.00	18.00
Rural m-p. res.	12.00	18.00
Winslow & South Wayne Telephone Co.		
One-party bus.	$24.00	$30.00
One-party res.	16.80	21.00
Two-party res.	15.00	18.00
Rural multi-party	16.80	19.20
Service stations	8.00	9.00
Schuyler Telephone Co., Rushville:		
One-party bus.	$48.00	$60.00
Two-party bus.	42.00	54.00
One-party res.	30.00	39.00
Two-party res.	27.00	33.00
Rural multi-party magneto	27.00	30.00
grounded	24.00	27.00
Service stations	12.00	15.00
Brighton Telephone Co.:		
One-party bus.	$18.00	$18.00
Urban Switching	10.50	18.00
Rural Switching	9.50	18.00

V V

Bans Signs on New Hampshire Public Utility Poles

New Hampshire Highway Commissioner Frank D. Merrill on June 21 issued an order prohibiting the posting of advertising signs on public utility poles on New Hampshire state highway right-of-ways.

He said that public utility poles on highway right-of-ways are by permit, and such permits may not be interpreted to convey rights for advertising purposes.

The reference to use of utility poles for advertising purposes was contained in a general order banning signs and posters from all highway right-of-ways throughout the state.

In issuing the order, which will be enforced by the state police, Mr. Merrill declared that since the state was host to "thousands of visitors throughout the entire year, the appearance of our highways is a major concern to all who are engaged in the tourist business."

V V

Nebraska Companies Show Gain In Number of Installations

Secretary George M. Kloidy of the Nebraska Telephone Association has just completed a study of the annual reports of the various telephone companies in that state as submitted to the Nebraska Railway Commission. He finds that as of Dec. 31, 1949, the 107 Classes A to E inclusive and 34 Class F companies were operating a total of 379,841 stations, an increase of 15,834 for the year, as compared to 364,007 reported at the end of 1948.

After classification, the reports disclose the following information:

Class A to E companies—as reported for 1948, showed a total of 359,910 stations in service. Reports for the year 1949 show a total of 375,874 stations in service—a gain of 15,964. Business telephones numbered 87,216 at the close of 1948 and 89,515 at the close of 1949—a gain of 2,299. City residence telephones numbered 201,817 in 1948 and 213,310 at the close of 1949—a gain of 11,493. Rural stations totaled 50,930 at the close of 1948 and 52,541 at the close of 1949—a gain of 1,611. Service stations totaled 19,947 at the close of 1948 and 20,508 at the close of 1949—a gain of 561.

Class F companies—as reported for the year 1948, showed a total of 4,097 stations in service. Their reports for the year 1949 show a total of 3,967 stations in service—a loss of 130. Of the total number reported for each of the two years, 1,197 were urban stations at the close of 1948 and 1,263 at the close of 1949—a gain of 66. Rural stations totaled 1,731 at the close of 1948 and 1,572 at the close of 1949—a loss of 159. Service stations numbered 1,169 at the close of 1948 and 1,132 at the close of 1949—a loss of 37.

Of the total, the Lincoln Telephone & Telegraph Co. reported 99,448, Northwestern Bell 183,886 and the other 105 companies of the higher classes 72,022. Fourteen companies reported more than

,000 stations, Nebraska Continental, Columbus, leading with 15,428. The Platte Valley Co., Scottsbluff, reported 8,911.

V V

Rate Increases Approved for Two Nebraska Independents

Authority to increase rates has been granted by the Nebraska Railway Commission to the Buffalo County Telephone Co., Pleasanton. The company serves 200 subscribers, of which 146 are rural. Its lines are all grounded and magneto service is provided. The rate schedule approved carries a straight increase of 50 cents a month on all types of service, so that charges are $2.75 for one-party business and $2.25 for residence and rural service.

The company is planning to metallize all lines, after which it will be permitted to charge $3.25 for business and $2.75 for residence and rural.

In 1949 the company had a net profit of $243. Under the new rates, which add $1,200 a year to revenues, it will have an estimated gross income of $4,951.

Approval was also given to an application of R. E. Dutcher, owner of the Pierce Telephone Co., for authority to charge $5.50 for common battery business, $3.50 for common battery residence, and 25 cents for each pack plug outlet for portable telephone equipment.

The company has a magneto switchboard; however, it is the intention of management to provide common battery service to a very limited extent.

V V

New England T&T Rate Case Ends; Company May Appeal

The New England Telephone & Telegraph Co. concluded its Rhode Island rate increase case on June 28 before Public Utilities Administrator Thomas A. Kennelly, with practically all of the evidence offered being excluded, although read into the transcript record as a probable basis for appeal to the courts. (TELEPHONY, July 1, p. 24.) Mr. Kennelly said he would allow time for counsel for the state to read the transcript before fixing a date for a further hearing.

Abraham Bellilove, chief state counsel, asked specifically for time to read the transcript before determining whether the state desires to cross-examine the group of company witnesses who sought to introduce 35 exhibits in support of the appeal for a 7 per cent return on net investment and another $1,700,000 in added annual revenue.

Throughout the case Mr. Kennelly blocked admission of company testimony, which has already been adjudicated by the state utilities appeal board in a decision handed down Dec. 15, 1949.

Harold W. Lynde of the controller's department, American Telephone & Telegraph Co., would have testified, company attorneys said, that an increase in pensions which became effective last Nov. 16, would have lifted pension costs by a minimum of 110 per cent. John J. Dolan, superintendent of plant, introduced maintenance expense estimates. They were $4,037,000 in 1949 and set at $4,183,000 in 1950 and $4,366,000 for 1951. Of these costs, labor and personnel expenses were $2,428,000 in 1949, with estimates of $2,509,000 for 1950 and $2,602,000 for 1951. On Mar. 1 the company asked for $1,700,000 boost.

V V

Nebraska Independent Granted Higher Rate Schedule

The Curtis Telephone Co. has been authorized by the Nebraska Railway Commission to put into effect on Aug. 1 an increased rate schedule although the original request was reduced. The commission held that the rates for which the company applied would have resulted in an excessive return. (TELEPHONY, Apr. 15, p. 24.)

The approved rates will give an added gross exchange revenue of $6,326 a year based upon the development of 490 stations, and a net income of $3,148 following all charge deductions, which is equivalent to a return of 6.31 per cent on a rate base of $49,854.

One-party business service is increased from $2.75 to $4.75; business extensions from 50 cents to $1.00; one-party residence from $1.50 to $2.75; a four-party rate of $2.00 is added for residence service; rural, grounded, from $1.75 to $2.25 and metallic from $2.25 to $2.75.

In addition to supplying service to the town and rural areas the company switches 94 subscribers over facilities owned by L. N. Elson.

V V

State Asks Cancellation of Michigan Bell Increase

The Michigan Public Service Comission was to have considered on July 6 the state attorney general's request that it cancel the $9,000,000 rate increase recently granted the Michigan Bell Telephone Co. (TELEPHONY, July 1, p. 24).

Attorney General Stephen J. Roth has called the increase "unlawful and unreasonable." He cited 26 alleged errors in the commission's split decision that allowed the increase.

V V

Filing for Primary Closes

Close of the filings for the primary election in Nebraska found nine candidates for the position of railway commissioner. They are: Harold A. Palmer, present chairman, John Knickrehm, former commissioner, Ed Swanson, Percy Peterson, Cecil E. Struthers,

COMING CONVENTIONS

Michigan Independent Telephone Association, Olds Hotel, Lansing, Sept. 14 and 15.

Rocky Mountain Telephone Association, Newhouse Hotel, Salt Lake City, Sept. 21 and 22.

Tennessee Independent Telephone Association, New Southern Hotel, Jackson, Sept. 27.

United States Independent Telephone Association, Stevens Hotel, Chicago, Oct. 9, 10, and 11.

North Carolina Independent Telephone Association, Carolina Inn, Pinehurst, Oct. 16 and 17.

South Dakota Telephone Association, Cataract Hotel, Sioux Falls, Oct. 26 and 27.

Virginia Independent Telephone Association, Natural Bridge Hotel, Natural Bridge, Nov. 2 and 3.

South Carolina Independent Telephone Association, Wade Hampton Hotel, Columbia, Nov. 6 and 7.

Georgia Telephone Association, Dempsey Hotel, Macon, Nov. 9 and 10.

Alabama Independent Telephone Association, Jefferson-Davis Hotel, Montgomery, Nov. 13 and 14 (tentative).

Florida Telephone Association, Sheraton Plaza Hotel, Daytona Beach, Nov 13 and 14.

Missouri Telephone Association, Muehlebach Hotel, Kansas City, Nov. 20 and 21.

Charles J. Zadicke, J. C. McReynolds, J. C. Schuler and Louis Maupin.

V V

Denies Interim Increase For Upstate Company

The New York Public Service Commission on June 29 refused to grant the Upstate Telephone Corp, Johnstown, an additional interim rate increase, but ordered an earlier temporary increase continued to Feb. 28, 1951. It would have expired June 30.

The commission ordered the extension pending a decision on a final rate schedule for the company.

The interim increase granted July 26, 1949, authorized monthly increases of 50 cents for business services and 25 cents for residence service. The company asked the commission last May for further interim increases.

V V

Central Iowa Asks Rate Increases in Minnesota

The Central Iowa Telephone Co. has asked for a rate increase in six Minnesota exchanges.

It asked permission to raise rates at Adams, Alden, Kiester, Le Roy, Lyle and Sanborn.

The commission has taken the request under advisement.

V V

Rate Increase Approved For Ridgefield, Wash.

Permission to increase its rates has been granted to the Ridgefield Telephone Co. by the Washington Public Service Commission.

The increase was for 25 cents a month on each classification of service and will result in $112.50 additional revenue per month.

V V

To Hear Service Complaints Against N. C. Company

The North Carolina Utilities Commission on June 29 ordered an investigation into the operations of the Old Town Telephone System, which has exchanges in five towns near Winston-Salem, N. C., and serves 630 subscribers. The exchanges are located at Old Town, Rural Hall, King, Stanleyville and Lewisville.

In ordering the investigation, the commission said it "has received many complaints covering a period of many years with respect to the services and charges" of the company. It ordered a public hearing to be held at Winston-Salem Aug. 9, stating that it has made several "investigations and conducted hearings in an effort to satisfy complaints" but that "it now appears that a general investigation should be made."

"Fantastic or not, gentlemen, we have just been chosen by the Book-of-the-Month Club."

SATURDAY REVIEW OF LITERATURE

V V

Summary of Commission Rulings and Hearings

Kansas Corporation Commission

July 10: Hearings on applications of Farmers Cooperative Telephone Assoc., Kensington, and Overbrook Telephone Co. for authority to change rates.

July 11: Hearing on application of East Kansas Telephone Co., Nortonville, for permission to operate in Kansas.

July 14: Hearings on applications of Cross Telephone Co., Sylvan Grove, and Satanta Telephone Co. for authority to change rates.

July 21: Hearing on application of Farmers Telephone Co., LaCrosse, for authority to change rates.

Sept. 1: Hearing on application of Fontana Telephone Co. for authority to change rates.

Missouri Public Service Commission

June 22: Order issued suspending proposed rates of A&M Telephone Co., Ava, for 120 days after July 1 unless otherwise ordered.

New York Public Service Commission

July 6: Hearing on petition of Middleburg Telephone Co. for authority to increase its capital and number of authorized shares; extend its term of duration; change the number of directors; change corporate purposes, and issue 351 shares of common capital stock.

Oklahoma Corporation Commission

July 20: Hearings on complaints of Morrison and Billings residents regarding service of Southwestern Associated Telephone Co., Dallas, Tex.

July 27: Continued hearing on application of several towns for free interexchange service from the Southwestern Bell Telephone Co.

Wisconsin Public Service Commission

July 7: Hearing on complaint of John P. Jacoby *et al* against Menomonee Falls Telephone Co. and Wisconsin Telephone Co. regarding service extension.

July 7: Hearing on application of White River Farmers Telephone Co. for authority to increase rates.

V V

Duncan Promoted by Southern Bell

Walter E. Duncan, Tennessee manager for the Southern Bell Telephone & Telegraph Co. since 1943, has been named assistant vice president in charge of finance with headquarters in Atlanta.

Succeeding Mr. Duncan as Tennessee manager is Claude J. Yates, Louisville, Ky., Southern Bell's former Kentucky manager.

MANAGEMENT OF OFFICE DUPLICATING PROCEDURES

By **WALLACE W. DRAPER**
Supervising Accountant
Southern Bell Telephone & Telegraph Co.
Atlanta, Ga.

PEOPLE have a way of referring to large and impressive numbers as "telephone numbers"—an allusion which we at Southern Bell certainly appreciate. But here are some real "telephone numbers"—our General Service Bureau output of reproductions during 1949: 2,076,141 sq. ft. of blueprints; 239,093 letter size photostats; 5,078,686 sheets by stencil and offset duplicating processes!

Such production probably qualifies our bureau as the largest letter shop in Atlanta—and virtually all of this is emergency work that would be extremely difficult to handle through normal channels.

We need all kinds of plans, drawings and layouts—mechanical, architectural and electrical. We have charts, reports, instructions, legal papers—a countless array of items which must be duplicated a few—or thousands of —times in order that our operators may say, "Number, please?"

A great deal of routine duplicating work has always been handled within our own office as a matter of expediency. When this operation was analyzed shortly after the recent war, we were following the quite normal pattern of having a stencil duplicator in the mailing department, operated by messengers and mail clerks in the time they could spare from other "more important" duties.

It seemed to me that if it was worth having this equipment at all, it should be worth the employment of specially-trained operators who could do their jobs efficiently and speedily. We wouldn't think of putting a girl on a long lines board unless she was thoroughly familiar with the routine—and why should office duplicating work be any different?

A separate department was created, —the General Service Bureau, and moved into adequate space. It was found that we had tremendous outside charges for various types of reproductions, principally in overtime and surcharges when rapid delivery was required. Over a period of time, the General Service Bureau acquired a comprehensive group of equipment to handle these tasks.

We have a large blueprint machine, a black-and-white print machine, two photostat cameras and related equipment, two offset machines and two stencil duplicators. These produced, last year, the amount of work cited at the beginning of this article — and after a careful cost analysis we found an actual saving of some $155,000 over what this same work would have cost in outside shops.

Of course, this economy is important to us—but our real benefit is convenience and speed. As a matter of policy, we prefer to have reproduction work on which there is ample time, processed in outside shops — because we are, after all, a communications system; and because we like to be able to give business to the firms who are our valuable customers.

In developing the General Service Bureau, we selected trained personnel and impressed them with the importance of their work as a means of developing department morale. We now have some 25 regular employes, including typists, machine operators and clerks; plus additional help in rush periods when the bureau often operates on a 24-hour basis.

Actually, when we started, we had no idea of the possibilities. We decided that we could do what others could. We learned the possibilities of our equipment through trial and error, and we kept in touch with the scientific advancements in reproduction processes.

We have been greatly helped by information and suggestions from the salesmen who call upon us—although again, as a matter of policy, we endeavor to distribute our purchases among the various users of telephone service if the quality of the product they offer, and its price, are reasonably equal.

One such salesman bas been the Remington Rand man who showed us how to achieve speed and economy through the use of Plastiplates for offset reproduction. In the case of detailed work — and in any instance where the run is over 1,000 copies— we prefer to use film negatives, which we produce on one of our photostat cameras.

Southern Bell Telephone & Telegraph Co.'s production of offset duplicating plates is accomplished in 20 minutes through use of Plastiphoter cabinet. Ease of plate preparation makes possible urgent multiple-page reports in "incredibly short time."

For these negatives, incidentally, we have developed a drying cabinet with forced circulation of electric heat, which gives us an uncurled, ready-to-use negative within four minutes! This is exposed onto the Plastiplate with the aid of the Plastiphoter—and we have three of these machines in almost constant use. Thus we get an economical offset plate ready to put on the machine in a total time of perhaps 20 minutes—and we have often been able to produce urgent multi-page reports, collated and bound, in incredibly short time.

(Please turn to page 36)

THE PLANT MAN'S *note book*

BY RAY BLAIN TECHNICAL EDITOR

A RECENT press release states that in a Danish hospital, doctors are summoned to the telephone by signals buzzing from tiny pocket radio receivers. No larger than an ordinary cigarette case, these receivers buzz signals from telephone operator radio senders.

• • •

It has been said: "It wouldn't hurt so much to become angry except that, for some reason, anger makes your mouth work faster than your mind."

• • •

United States experts claim that working on a farm is the most dangerous job. The safest job, believe it or not, is working with explosives.

• • •

It has been estimated that involuntary retirement of workers at 65 years of age deprives our economy of an increase in the national production of almost four billion dollars a year.

• • •

During the year 1949, Western Electric installers turned over to the Bell telephone companies 1,736,000 lines of dial control office equipment. This represents the second highest yearly production in Western Electric history.

• • •

The *Indiana Telephone News*, in a recent issue, explains that a subscriber will get his party on a toll call much quicker when he calls by number.

It is believed that operating companies can do a lot of missionary work along these lines by encouraging business concerns to include their telephone numbers on their letter-heads, business cards and other office forms and literature. It is likewise a good plan to include the telephone number of the writer of a letter after the signature. Many government offices now type the signature and telephone number at the end of all letters. This permits reading of a signature no matter how bad the handwriting of the signer and also makes his telephone number available in the event it is necessary to call him to request an explanation as to the meaning of his letter.

• • •

Someone has said that character is what you are—reputation is what you get caught at.

• • •

It is claimed that the atomic bomb is related to the plow in the history of the conquest of nature as television is related to writing in the history of communications.

• • •

Reports from the U. S. Labor Department's Bureau of Employment Security reveal that employment in 190 plants, representing 85 per cent of the communications equipment industry, led by soaring production of television sets, rose 5.6 per cent between January and March, with a further rise of 2.6 per cent anticipated for July.

Telephone and telegraph equipment was the only segment of the industry that registered a decline and it was a small one, amounting to only 1.7 per cent.

• • •

It would seem that an automatic timing device, which is already available, might prove useful in many cases to limit the length of conversations on heavy traffic party lines. For example, if a limit of three or more minutes were decided upon to be the average length of an ordinary conversation, then equipment could be provided to disconnect the parties after the expiration of that period. It appears that this is about the only arrangement that would permit the line time to be divided equitably among the various customers.

Such an arrangement would definitely act as a curb on parties who monopolize the line for extended periods. Although, of course, the interrupted party could call back after being disconnected, it would place him in competition with other customers on the second call. Moreover, if customers are aware that they are to be cut off at the end of a specified period, they would undoubtedly plan their conversations accordingly so that extra long calls would not normally be required.

• • •

We believe it would prove a good idea, and a paying proposition, for telephone companies to install public telephones for the use of "sidewalk" superintendents. This would permit high powered executives to keep in touch with their offices while they spend their time watching interesting building construction.

• • •

According to *United States News*, families are being formed in the United States at the fastest rate in 30 years. They are growing much faster than the population as a whole. This situation creates a big demand for family-type goods, i.e., homes, cars, appliances, telephones, etc. In 10 years the number of families has increased 24 per cent. Population in 10 years has increased 15 per cent. Furthermore, most of the family increase has occurred since the end of World War II. Since that time, six million new household units have been formed.

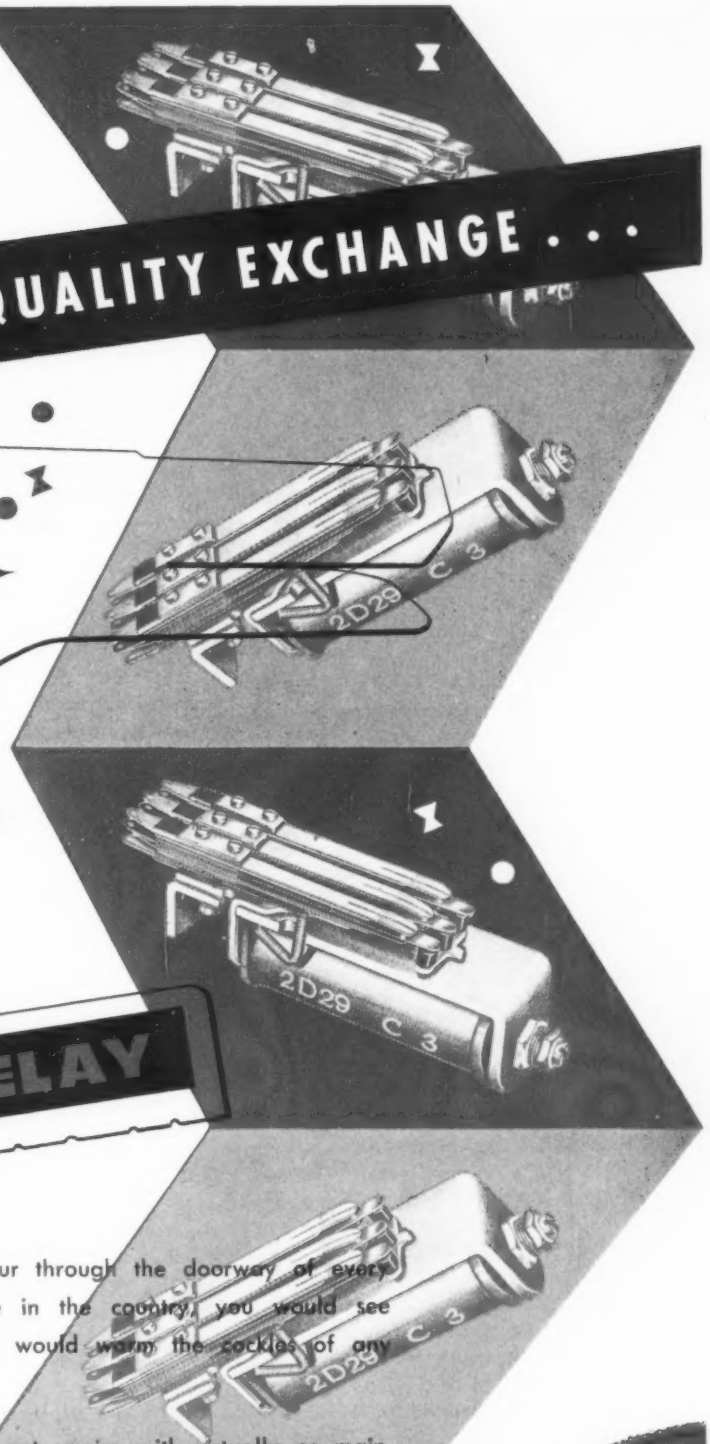
In the future, family growth is expected to be 18 per cent, with a population growth of 9 per cent. For every 100 families today, 118 families are expected in 1960. But for every 100 individuals today, only 109 individuals are expected 10 years hence. These are facts of basic significance to the telephone industry.

• • •

Lieut. Col. David E. Penny, of the engineering department of the Southern Bell Telephone & Telegraph Co., in Atlanta, Ga., spent two weeks on active duty with the Signal Corps' Plant Engineering Agency, in Washington, D. C., recently.

We are sure that Colonel Penny taught us more about the telephone business than we were able to teach him about army communications.

YOUR TICKET TO A QUALITY EXCHANGE . . .



NORTH ALL-RELAY

If you had a magic carpet to carry your through the doorway of every North "All-Relay" switchboard exchange in the country, you would see performance figures and operations that would warm the cockles of any telephone man's heart.

Constant, around the clock, year-in, year-out service with virtually no maintenance. No adjustments, no cleaning or replacement—the simple relay action gives top quality service while upping profits thru reduced overhead.

Tho we've no magic carpets to spare, we'll be glad to provide the location of your nearest North "All-Relay" switchboard installation. Just call or write:—

NORTH

THE NORTH ELECTRIC MANUFACTURING CO., Galion, Ohio, U. S. A.

Originators of ALL RELAY *Systems of Automatic Switching*

PLANT MAN'S QUIZ

Q. What is cathodic protection of underground telephone cable, and how is it used?

A. When direct current is permitted to flow from the cable sheath to the soil or earth, it carries away very small particles of the lead. This action is commonly known as electrolysis, which causes serious damage to many long underground cables.

Moreover, because of the chemical action between the sheath and the chemicals in the soil surrounding the cable, a small current may be produced at the surface of the sheath which might result in the corrosion of the lead. This type of action is commonly referred to as galvanic action. Corrosion may also be caused by stray currents from an electric railway system, and it is this type that is usually referred to as electrolysis.

It will be noted from the above that corrosion occurs only when the current flows from the lead sheath to the earth and, likewise, that no corrosion takes place where the current flows from the earth or soil to the cable. It has also been further established that alternating current will do practically no damage to the cable, but that it is direct current flow that causes sheath corrosion. It follows, therefore, that lead sheathed cables are very often subjected to corrosion or electrolysis.

The severity of the corrosion is relative, and is dependent upon many factors, e.g., the moisture content of the soil, the degree of acidity or alkalinity, the resistivity of the soil, proximity to street railway tracks, etc. In order that the current may flow from the cable sheath to the earth, the sheath must be at a positive potential in relation to the soil. Ergo, the sheath may be subjected to corrosion whenever it is at a positive potential to the earth.

In order to correct or minimize these positive-to-earth potentials, several remedial measures may be taken. One of these methods is cathodic protection. This method causes the sheath to be maintained at a negative potential to earth, thus, preventing current flow from the sheath to earth. This blocking of the current flow to earth prevents and eliminates sheath corrosion.

For the purpose of maintaining this negative cable-to-earth potential, current from a rectifier is forced from an anode, or iron pipe, through the earth onto the cable sheath, returning to the source of power via the sheath. Because of this current from the anode flowing through the earth, the soil surrounding the cable is always anodic, or positive, and the cable is always negative, or cathodic. The name of the system is derived from this fact, that the cable is the cathode, and is spoken of as "cathodic protection."

It must be remembered, however, that if there are any foreign metallic structures near the anode, or closely paralleling the underground cable, they will be subjected to corrosion near the location of the anode. This is due to the fact that these foreign substructures conduct some of the current back toward the anode, and that the current will leave the foreign structure to return to the anode. The amount of current which will flow on the foreign substructures from a given cathodic station depends upon the resistance of the soil and pipeline, the separation between the various substructures, length, or exposure, etc. In order to prevent this damage to foreign substructures, good relations and careful coordination should be carefully maintained between all utility companies that maintain metallic substructures.

Pole mounted rectifiers are frequently used to provide cathodic protection of telephone cables.

• • •

Q. What is the necessity for making insulated joints in lead covered cables?

A. The purpose of these joints is to break the electrical continuity of the cable sheath in order to prevent the flow of foreign currents along the sheath of aerial cables. These insulated joints are usually connected into cables entering buildings, between aerial and underground, etc.

• • •

Q. Will the insulation of paper cable be damaged if water enters a splice containing dessicant?

A. Exhaustive tests have indicated that all approved dessicants will not corrode the conductors nor damage the insulation of cable in the slightest even though it may be saturated with water for long periods of time.

• • •

Q. Will you please explain the manner in which the two-element tube may be used to advantage in a selective ringing system on a rural line?

A. The Vincent rare gas relay is frequently used for this purpose. This two-element vacuum tube, named after its inventor, W. J. Vincent, contains no moving parts and will function in any position.

It consists of a glass envelope, into which is sealed two special electrodes immersed in an atmosphere of rare inert gas. In action, on wire communication frequencies, it passes current when the voltage exceeds a closely predetermined value and presents a practically open circuit action to currents below this voltage. It is this characteristic which classes it as a relay. Since line disturbance to ground on divided ringing circuits are usually low voltage in character, they will not pass through the relay. In most cases, clearer transmission will be possible since the telephone line is ground-free except when the high ringing voltages are being used and the tube becomes conductive. With certain limitations, the Vincent rare gas relay also gives some protector action by draining induced lightning discharges or power induction off to ground.

This relay operates ordinarily at from 60-70 volts and tests show that the value for a given tube changes somewhat with temperature and service age of the tube. In use, it requires the presence of sufficient voltage to flash the tube and render it conductive during the ringing interval.

This relay may be used on magneto or common battery lines for code or harmonic ringing. Where condensers are desirable, they should be left in the circuit. Of course, where DC pulsations are used, the condenser cannot be used. The tube is inserted in series with the ringer and adds some impedance to the ringing circuit. This means that the current flow is somewhat reduced and the ringing output lowered a corresponding amount.

• • •

Q. What type of wire may be used to lash cables to racks in manholes on underground construction in order to prevent corrosion? We have tried copper, but find that it is soon damaged because of corrosion in this location.

A. Lead lashing wire is generally recommended for this purpose. This consists of a small bronze wire with a lead-antimony sheath, $\frac{1}{16}$-inch outside diameter. The strength of this wire is about equal to copper of equivalent size and will not corrode.

V V

>> When a telephone line crew in Branford, Conn., came across a bluebird's nest in an old telephone pole they were to replace they cut the old pole above and below the nest, lashed it to the new pole and there it stayed until the bluebird family left.

Maintenance Testing Equipment

(Concluded from page 23)

should be determined and localized, that is, confined to as small an area as possible so that correction can be made. This action will help to prevent a repetition of the trouble.

(16) A test should never be made on any dry battery by short-circuiting it for a spark, for this will materially shorten the useful life of the battery.

(17) Care should be taken to keep batteries dry. If moisture or water collects between the battery terminals, it will form a conducting path and thus allow a loss of current.

(To Be Continued.)

V V

Texas Telephone Co-op Receives Charter

Tri-County Telephone Cooperative, Inc., Paris, Tex., has been granted a charter.

The telephone group was formed last January when representatives from Lamar, Red River and Delta Counties met and elected the following directors: Louis Bonham, Bryarly; Roy Parson, Sumner; Blake Bonham, Paris; Merrill J. Stewart, Sumner; Lem Guest, Fulbright; Grover Pickering, Lake Creek, and M. E. Boaz, Brookston.

Louis Bonham was named chairman of the board.

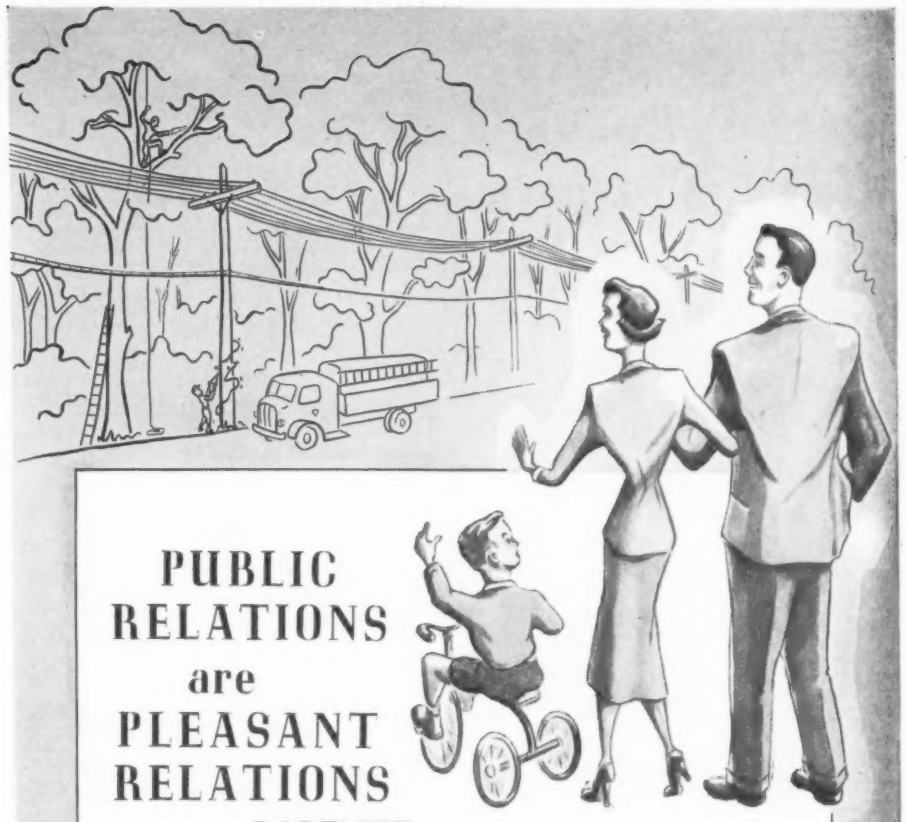
It was pointed out at that time that the rural telephone cooperative would function along similar lines to electric cooperatives. The telephone cooperative would serve rural homes in Red River, Delta and Lamar Counties where, it has been reported, a survey showed there are 1,500 prospective subscribers to telephone service.

V V

New York Companies Are Consolidated

Announcement has been made of the consolidation of four New York Independent telephone companies. The companies affected are the Westfield Telephone Co., Mayville Telephone Co., Portland Telephone Co., and Ripley Telephone Co.

The name of the new company is Chautauqua & Erie Telephone Corp., and its general offices are located at Westfield.



PUBLIC RELATIONS are PLEASANT RELATIONS when BARTLETT clears your lines

EVERYBODY likes the Bartlett Tree Man . . . friendly, cooperative, and obviously skilled at his job; your customers will like the neatness and efficiency of Bartlett work, performed with a minimum of disturbance to their property and everyday life. Bartlett on the job is your assurance of more friendly public relations.

YOU receive plus value when you retain Bartlett for line clearance; contact our local office in your community or write direct to the home office; our nearest representative will call promptly.

BARTLETT SERVICE MEANS

- CLOSE SUPERVISION
- TRAINED MEN
- BEST EQUIPMENT
- CAREFUL WORK
- PROMPT SERVICE
- ECONOMY
- RESPONSIBILITY

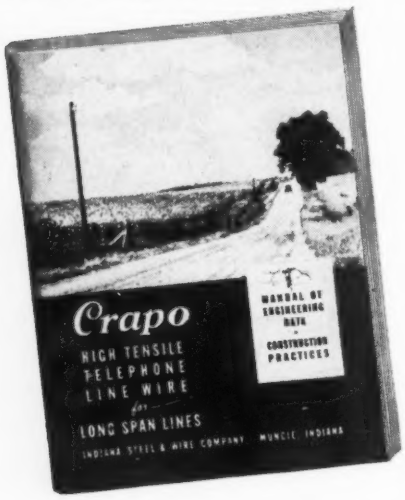
BARTLETT TREE EXPERTS

The Bartlett Way

HOME OFFICE: RESEARCH LABORATORIES & EXPERIMENTAL GROUNDS, STAMFORD, CONN.

LOCAL OFFICES: Rutland, Windsor, Vt.; Milford, Peterboro, Rochester, N. H.; Cambridge, Framingham, Manchester, Osterville, Pittsfield, Mass.; Providence, R. I.; Danbury, Hartford, New Canaan, New Haven, Stamford, Westport, Conn.; Islip, Kingston, Monroe, Middletown, New York, Peekskill, Southampton, Syracuse, Westbury, White Plains, N. Y.; Bernardsville, Morristown, Orange, N. J.; Chambersburg, Paoli, Philadelphia (Cynwyd), York, Pa.; Wilmington, Del.; Bethesda, Easton, Towson, Md.; Ashland, Ky.; Lancaster, Portsmouth, Ohio; Charlottesville, Lynchburg, Roanoke, Va.; Bluefield, Charleston, Huntington, W. Va.; Kingsport, Tenn.;

How to Build Better Rural Lines at Lower Cost per Mile



Write for Your Copy of This Free Book!

You can save material and man-hours, and build better rural lines, when you use *Crapo* High-Tensile Telephone Line Wire.

Long-span, lower-cost rural construction is described in the illustrated Manual shown above. Designed to assist telephone men in furthering their plans to extend and improve rural service, this book includes stringing sag and tension data, helpful information on construction practices, metalicizing, transposition, pole guying, and related subjects.

This FREE book is yours for the asking. Write for Manual No. 203 today!

Crapo HIGH-TENSILE LOW-RESISTANCE LINE WIRE

Crapo HTL-85

Crapo HTL-135

Distributed by Leading Jobbers

INDIANA STEEL & WIRE COMPANY
Muncie, Indiana

Management of Office . . .

(Concluded from page 31)

When we want to get typewriting onto a photographic Plastiplate, we use the Stenalith sheet which provides excellently sharp reproduction. We have never attempted to use metal plates on our offset machines because of the cost, and it does not seem advantageous to purchase our own metal-plate-making equipment when we are getting such fine results with Plastiplates.

Jobs are ordered by various departments of the company on forms that indicate the desired reproduction process. If it seems that another process is more desirable or more economical, the supervisor of the bureau immediately telephones the department to discuss the change in plan. The order form also indicates whether negatives and/or Plastiplates are to be preserved for future use. We have storage facilities in the bureau, but prefer that departments keep their own Plastiplates for better control.

The great lesson that we have learned is that duplicating and reproduction work can be done with efficiency and economy—if the personnel assigned to it is not concerned with other tasks, and if the supplies used lend themselves to speed and accuracy.

V V

Central Telephone Plans Common Stock Issue

Central Telephone Co. has begun preparation of a registration statement expected to be filed with the Securities Exchange Commission in the latter part of July.

It is proposed that the registration cover 90,000 shares of $10 par value per share common stock of Central Telephone Co. to be sold for the account of the treasury of that company. All of the present 260,000 shares of common stock are owned by Central Electric & Gas Co. Proceeds would be used principally to retire the presently outstanding $850,000 Central Telephone Co. short term note.

It is expected that the shares will be offered via rights to common stockholders of Central Electric & Gas Co., on the basis of one share of Central Telephone Co. common for each 13 shares of Central Electric & Gas Co. common owned, at a price substantially below the book value of the shares, with the right of oversubscription. Dividends of 50 cents per share were paid in 1948, 80 cents in 1949 and 20 cents in the first quarter of 1950, with 20 cents per share declared for payment June 30.

It is not expected that the offering will be underwritten although investment dealers will be compensated for obtaining subscriptions. It is expected that Paine, Webber, Jackson & Curtis and Stone & Webster Securities Corp. will be retained to organize and coordinate the efforts of the dealers.

Since the war, Central Telephone Co. and its three subsidiaries, La-Crosse (Wis.) Telephone Corp., Middle States Telephone Co. of Illinois, and Virginia Telephone & Telegraph Co. have been carrying on an extensive construction program of modernization and expansion of facilities designed to meet the greatly increased demand. Many communities served have been and are being converted to dial automatic equipment.

In the last eight months conversions to dial have been completed at La-Crosse, Park Ridge and Des Plaines, Ill., and Charlottesville, Va., among others.

For the year 1949, operating revenues for the Central Telephone Co. group of companies were in excess of $6,150,000 and the balance of earnings for the common stock exceeded $425,000. Company-owned stations exceeded 125,000 at Dec. 31. At that date the number of unfilled orders for telephones exceeded 7,500. Company-owned stations at May 31, 1950 exceeded 129,000 and unfilled orders exceeded 7,000. For the first five months of 1950 operating revenues showed an increase of more than 14 per cent over the same period of 1949.

V V

Nebraska Association Has New Plan for Small Company Aid

For the purpose of giving more effective aid to small companies in solving their operating and other problems, the directors of the Nebraska Telephone Association have substituted for the general committee that has been functioning for several years a district system set-up. The duty of the committee members is to keep fully informed as to the situation of the companies in their areas and to offer advice and aid in the correction of unsatisfactory conditions.

President Merle Hale has named the committees as follows: First district, Otto Fuerst, Scottsbluff; J. H. Raile, Benkleman; and G. L. Frasier, Grand Island. Second district, Neil Schreck, Bertrand; R. A. Devereaux, Grand Island, and M. P. Snavely, Kearney.

Third district, John Spady, Hastings; M. K. James, Grand Island, and Pat J. Carey, Petersburg. Fourth district, V. Bellows, Blair; John A. McKinzie, Lincoln, and H. W. Suddick, Omaha.

v v

Brorein Named Among South's Foremost Leaders

Carl D. Brorein, Tampa, Fla., president, Peninsular Telephone Co., has been named one of the south's foremost leaders for 1950 by the editors of *Dixie Business* magazine. The selections were based on lifetime records of distinguished service to the south and not for achievements in any given year.

The "Man of the South" will be selected from the group named for 1950 or from the 50 men selected for 1949. H. S. Dumas, Atlanta, Ga., president, Southern Bell Telephone & Telegraph Co., was among the foremost leaders selected in 1949.

v v

Two Retired Lincoln T&T Employes Die in Nebraska

Two retired veterans of the Lincoln Telephone & Telegraph Co. died recently. George B. Arnold, 66, former wire chief of the exchanges at Beatrice and Nebraska City, who started his career as a telephone man in Ohio in 1905, died at his Lincoln home.

Frank M. McDowell, 75, had been construction foreman for more than 30 years and a charter member of Frank H. Woods chapter of the Independent Telephone Pioneer Association.

v v

OBITUARY

JOSEPH A. KLEIN, JR., president of Mathias Klein & Sons, Chicago, Ill., died suddenly at his home in Wilmette, Ill., on June 14.

Mr. Klein was a grandson of the founder of the company, Mathias Klein, who started a forge shop in Chicago in 1855. In this shop Mathias Klein began to manufacture tools for the electrical industry, and from this start the company developed into the principal producer of tools and equipment for linemen and electricians.

On the death of Mathias Klein, his son, Joseph A. Klein, became president, and Joseph A. Klein, Jr., grandson of the founder, succeeded to the presidency on the death of his father in 1936.

Mathias A. Klein, brother of Joseph A. Klein, Jr., and also a grandson of the founder, will be the new president of the company.

Joseph A. Klein, Jr., is survived by his widow and 10 children.

Case History*

of

Untreated versus Treated Poles

1925 **1946**

51 Untreated Poles Placed . . . 19 Poles Still Serviceable

607 Treated Poles Placed . . . 600 Poles Still Serviceable

AND *Creosote* MADE THE DIFFERENCE!

In 1946, after 21 years in line—600 out of 607 Pressure-Creosoted Poles were still serviceable. And of the 7 poles no longer in service, 5 had been removed because of a grade crossing clearance—2 because of an accident. *Not a single one* of the 607 poles had been removed because of deterioration due to treatment or preservative failure—a 100% record for creosote.

And when it comes to creosote, you get the best possible delivery service from Koppers. With 14 creosote-producing plants—with 4 large storage plants—Koppers can supply you with creosote *where* you need it—*when* you need it.

Koppers is the nation's largest distributor of creosote. So remember—you can always count on Koppers to help you maintain your production schedules.

KOPPERS COMPANY, INC. · Pittsburgh 19, Pa.

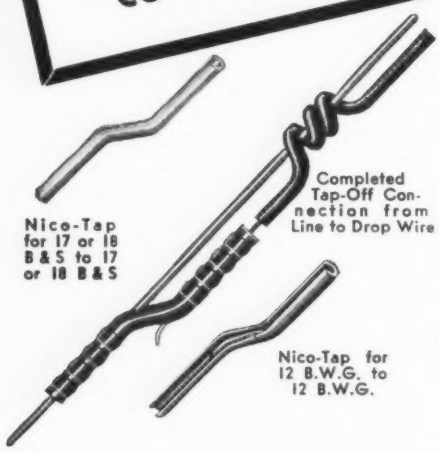
*Proceedings of the American Wood Preservers' Association—1947.

All Standard Specifications
For All Types of Wood Preservation

KOPPERS CREOSOTE...*to be sure*!

Nico-Tap

THE FAST, EASY WAY OF MAKING TAP-OFF CONNECTIONS



● Here's a new Nicopress Sleeve that materially increases efficiency in making tap-off connections.

Nico-Taps meet every requirement for this type of work. Completed connections are strong, tight and efficient. And besides, Nico-Taps are real time savers. They are split, thus eliminating all need of cutting the line wire to make the connection. All you do is slip the sleeve over the wire and compress with your Nicopress Tool.

Nico-Taps are now available in three sizes; one for tap-offs from 17 or 18 B&S to 17 or 18 B&S (Stock No. T2-045B), one from 12 B.W.G. to 12 B.W.G. (Stock No. T2-109D), and one, a reducing sleeve, from 12 B.W.G. to 17 or 18 B&S (Stock No. T2-109x045D).

BUCKEYE
TELEPHONE & SUPPLY CO.
COLUMBUS, OHIO

With The Manufacturers

Arthur B. Smith Receives Honorary Degree in Nebraska

At the seventy-ninth commencement of the University of Nebraska, held recently at Lincoln, Arthur Bessey Smith, Ph.D., for many years chief research engineer of Automatic Electric Co., Chicago, and now vice president of Automatic Electric Laboratories, Inc., was awarded the honorary degree of Doctor of Engineering, in recognition of his many contributions in the field of communications.

The citation, as published in the commencement program, reads: "Designer and inventor of circuits and devices used in telephony. Pioneer in the field of communication. One-time teacher at Purdue University. Organizer of industrial training course for young engineering employes. Member of international committee on acoustics, and standardization of electrical terms, definitions, abbreviations, and symbols. Author of technical papers. Active member of technical societies. Guide and counsellor to researchers. Inspiration to young engineers."

Dr. Smith is an alumnus of the University of Nebraska (class of 1901). During the early years of his career, he worked for various telephone companies in Nebraska, Iowa, and New York, later going to Purdue University, where he taught telephone engineering during the period of 1905 to 1909.

Joining Automatic Electric Co. in 1909 as assistant to the sales manager, Dr. Smith was shortly afterward transferred to the development and research department as head of the research group. In 1912, he established the Automatic Electric Training School, of which he is now the director. It was during this period also that he collaborated with W. Lee Campbell in the preparation of the first general treatise devoted exclusively to automatic telephony. He has also authored other works in the same field, as well as a large number of technical papers and articles on telephone switching, transmission, and allied topics.

In 1926, he received the degree of Doctor of Philosophy in Physics from Northwestern University, based on his investigation of the phenomena underlying the slow acting relay.

He holds membership in a number of professional engineering and scientific societies. He is a Fellow and life member of the American Institute of Electric Engineers, serving on the Communications Committee; a Fellow in the American Association for Advancement of Science; Member of the American Physical Society; Member of the Western Society of Engineers; Member of the Institute of Radio Engineers; Member of the Independent Pioneer Telephone Association; and Life Member of the Telephone Pioneers of America. He is also currently serving on one of the committees of the American Standards Association engaged in revising the American Standard Electrical Terms.

A. B. SMITH

V V

W. J. Goerisch Has New Sales Post with Graybar Electric

Effective immediately, W. J. Goerisch is appointed manager, power apparatus sales, for the Graybar Electric Co., A. H. Nicoll, president, announced June 29. At the same time he disclosed that the post of manager, lamp sales, vacated by Mr. Goerisch, will be taken over by B. P. Van Inwegen, who was manager, supply specialty sales.

In his new position, Mr. Goerisch will be responsible for national sales of General Electric power apparatus equipment, including motors, controls, generators and transformers as well as ventilating equipment and welding apparatus which Graybar distributes. He started with the company as manager of power apparatus sales for its St. Louis house in 1929. His career includes assignments with the lamp department and lighting department as manager at St. Louis. Mr. Van In-

wegen will be responsible for national sales of General Electric lamps. He joined Graybar in 1934 as a salesman at Newark. A graduate in electrical engineering from Rensselaer Polytechnic Institute, he has been successively assistant manager of lighting sales and manager of supply specialty sales.

V V

Graybar Electric Announces Four New Appointments

W. E. Henges, Cleveland district manager for the Graybar Electric Co. becomes assistant to the president effective Sept. 1, A. H. Nicoll, company president, has announced.

At the same time, he disclosed that C. E. Kirkpatrick, manager of the company's Memphis branch, will succeed Mr. Henges as Cleveland district manager; J. W. Horne succeeds Mr. Kirkpatrick as manager at Memphis and William McNulty will become manager of the company's Syracuse branch, the latter two appointments effective July 1.

V V

New Pole Jack Features Much Less Weight, Same Strength

Ever since men began to string wires on telephone, telegraph, light and power poles they have had three hard problems: To set the poles in the first place, to keep them straight and to replace and move them. "If the modern jack had solved no other problems than

those relating to this particular type of service industry would still owe it a great debt," P. H. McManus, of Templeton, Kenly & Co., Chicago, Ill., stated in commenting upon its new No. A329 Simplex pole jack (see cut.)

"The poles that carry our communications, light and power lines have plenty of enemies," continues Mr. McManus. "The elements are always fighting them, and the job of keeping them in proper alignment and replacing weak and damaged poles is as important as the original installation. For pulling and straightening poles, jacks are of course indispensable."

Mr. McManus states that the new No. A329 is lighter in weight than the No. 329, with an aluminum alloy housing that cuts 35 pounds off the weight of No. 329 without sacrificing any of the original lifting capacity.

The new lighter jack has the same 15-ton capacity, 22-in. lift and 37¾-in. height. It pulls or straightens any size pole, the I-beam base provides the same firm foundation, and the jack pivots on its base when the base pawl is disengaged, same as before, Mr. McManus states.

Information concerning the new No. A329 jack may be obtained by writing Templeton, Kenly & Co., 1020 S. Central Ave., Chicago 44, Ill.

V V

>> Crudely lettered on a sign on a telephone pole on a South End road in Seattle, Wash.:

"Cop ahead."

Sure enough, there was, just around the bend.

WAS-WAS FORT WAYNE CLASSIFIED BUSINESS DIRECTORY 214
Washing Machines–(Cont'd)
LAUNDERALL
Launderall
"WHERE TO BUY THEM" DEALER
BLOOMINGTON & NORMAL CLASSIFIED TELEPHONE DIRECTORY
Cardinal
PAINTS
Paint
Advertising
Advertising—Direc
Advertising Special
What Do Your Subscribers Think?
Does the appearance and utility of your directory suit your subscribers? Is it being used to the maximum as a buyers' guide for the benefit of your advertisers?
Loomis Directory Specialists are far more than space salesmen. They build directory use to a high level . . . and you profit from the increased use. As they build goodwill, they increase your net revenues.
What do you think? Are you completely satisfied with present directory revenue? Then you had better
CALL LOOMIS TODAY!
Sold, rented, repaired . . . See the Brand New SMITH-CORONA office typewriters . . . NOW IN STOCK!
Office Machines Co 217 W Adams
Turners' Gifts and Appliances 217 W Adams
ULTRA UMINALL
VU-ENAMEL
Yellow Here to consult me

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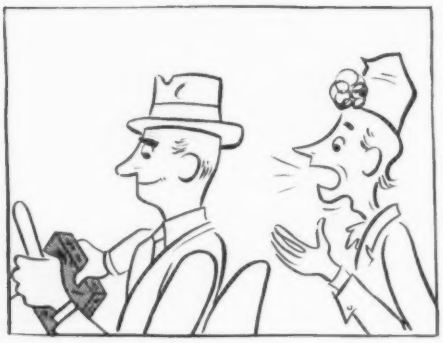
TELEPHONE DIRECTORY ADVERTISING

Gettle Bldg. FT. WAYNE, INDIANA
ST. LOUIS, MO. KANSAS CITY, MO.
UPPER DARBY (Phila.) PA. OMAHA, NEBR.

You can do a lot



with a little

GOLD SEAL TAPE

You can talk all you want to—Gold Seal is the best buy in tape. It *sticks* to the job. Laboratory control of production assures lasting "tack" in the friction compound. And it *goes further.* There's more tape value in every roll because there's no waste. In 10-roll cartons and single rolls—each roll cellophane-wrapped for factory-freshness. Jenkins Bros. (Rubber Div.), 80 White St., New York 13, N. Y.

JENKINS

Gold Seal Tapes

FRICTION and RUBBER TAPES

MADE BY JENKINS BROS.

MAKERS OF FAMOUS JENKINS VALVES

American Steel & Wire Co. Announces Three Appointments

Wilmer H. Cordes, manager of market development and advertising of American Steel & Wire Co., has been named general staff manager of the company's sales department, it was announced June 20 by H. M. Francis, vice president-sales of this U. S. Steel subsidiary.

In his new capacity, Mr. Cordes succeeds Paul L. Lindsay, recently appointed Cincinnati district manager of sales.

Mr. Cordes, a native of Chicago, has been associated with American Steel & Wire since he started at the age of 16 as a messenger in the company's Chicago sales office. After a few months he became general clerk, and in 1922 was named assistant advertising manager. Six years later he became manager of the advertising department, and in 1935 the sales promotion responsibility also was added to his assignment.

In 1937 the department was transferred to Cleveland, and Mr. Cordes has maintained his headquarters here since that time. At various times he has directed sales promotion and research, market development, and advertising. Since February, 1948, he has been manager of market development and advertising.

Mr. Cordes is prominent in the affairs of the Cleveland Advertising Club, serving presently as a trustee and as chairman of the club's Advertising Awards competition.

On June 23 he announced the establishment of separate advertising and market development divisions in the general sales department of American Steel & Wire Co.

O. B. Stauffer was appointed manager of the advertising division and John E. McGrath manager of the market development division effective immediately.

Mr. Stauffer, a native of St. Paul, Minn., is a graduate of Berea high school and Baldwin-Wallace College. During the war, he was a lieutenant in the Air Corps. He has been associated with the American Steel & Wire Co. since 1944, for three years as assistant manager of the market development and advertising division.

Mr. McGrath was born in Lakewood, and attended Lakewood high school and Ohio University. He served in the Army during the war, attaining the grade of staff sergeant. He has been associated with the company since July, 1946, serving in various sales promotion and market development assignments.

GUARD AGAINST LOSSES FROM POWER OUTAGES!

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ONAN STANDBY ELECTRIC PLANT!

Hospitals, radio stations, theaters, hatcheries, telephone exchanges, and manufacturing plants are protected against losses and danger to life with Onan Standby Electric Plants. When power fails, these plants start automatically; supply regular 110-volt A.C. electricity; stop when service is restored. Powered by heavy-duty gasoline engines, Onan Electric Plants will operate continuously if necessary. Air-cooled: 1,000 to 3,000 watts, A.C. Water-cooled: 3,000 to 75,000 watts, A.C. (Diesel models from 2,500 to 75,000 watts also available for other purposes.)

Write for Free Folder

Onan PRODUCTS

D. W. ONAN & SONS INC.

6175 Royalston Ave., Minneapolis 5, Minn.

for Perfect

INSTALLATION SERVICE

Porcelain Products insulators for the telephone industry are made to guarantee top quality in insulation and top performance on your telephone installations. A complete and diversified line with each item especially engineered and produced to exacting specifications for telephone service.

Sold through your jobber. Write direct if he does not carry the P.P. line. Ask for copy of our Telephone Insulator Booklet.

PORCELAIN PRODUCTS, INC.
FINDLAY, OHIO

Plans Machine Accounting Methods for Small Companies

A nation-wide plan for bringing business machine methods within the financial range of small businessmen, which may be of interest to small telephone companies, has been started by a comparatively obscure ex-county comptroller from Phoenix, Ariz., and is now in operation, or about to be launched, in 16 states.

The founder of the patented process, known as the "Exacto-matic System" is Joe L. Schmitt, Jr., one-time barnstorming pilot. Using punched-card accounting equipment supplied by Remington Rand Inc., Mr. Schmitt has developed an ingenious method of double-entry bookkeeping by machine methods which cuts accounting costs in half and reduces time to one-fifth of the manual method of accounting.

The system, which Mr. Schmitt developed after years of experimenting, reduces accounting to recording daily entries on a special form supplied by Mr. Schmitt's centralized bureau. These data are converted to double-entry bookkeeping on a punched-card system.

The job can be done for a small businessman for as low as $21.50 a month—less than the wages of a part-time bookkeeper. The monthly accounting can be completed and returned to the businessman within 10 days of closing his books for the month.

"It can be done in five days," Mr. Schmitt said, "but we like to allow a little margin for week ends and delays in the mail."

Mr. Schmitt plans to establish one of his central bureaus in every state in the union. He now has franchises in operation, or ready to go into operation when the Remington Rand equipment is installed, in 16 states. He hopes ultimately to set up the system in 380 cities.

He started in Arizona and has now spread to New York, Pennsylvania, Texas, Oklahoma, Missouri, Kansas, Florida, Nebraska, Colorado and California, with five more states ready to go into operation within the next few months.

The secret of Mr. Schmitt's system is the use of a single punched-card to develop details of each business transaction recorded on the daily journal. With his patented system of coding the punched-card, he can use the same card for eight different recordings of the information. This is a shortcut to usual methods, which would employ eight different cards.

The high speed machines, which are leased from Remington Rand, sort these cards at the rate of 420 a minute and prepare the reports at the rate of 100 lines a minute. Mr. Schmitt has set up a research division at his Phoenix plant, which occupies an entire building, to try to reduce the operations to even fewer steps.

In recent comparative tests of his method against manual double-entry bookkeeping, using the same data, the "Exacto-matic System," was able to accomplish in an hour and a quarter work that required seven hours by manual methods used by many small business houses, and was at least twice as fast as the average semi-machine accounting methods, employing computing and tabulating machines. Adding a margin for emergency interruptions, Mr. Schmitt estimated his system would save 80 per cent of the time usually required for bookkeeping, as well as cutting costs by at least 50 per cent.

Cities of 10,000 or more population, Mr. Schmitt believes, will support the operation of at least one central bureau to handle small business bookkeeping. Since all businesses have to keep books, he foresees the use of his system on a nation-wide scale, with Exacto-matic bureaus in every small town and city in the country.

Mr. Schmitt experimented with every type of recording and accounting machines, including a couple of his own invention, and in 1948 teamed up with Remington Rand to offer a business the first complete automatic machine processing system of double-entry bookkeeping and accounting.

His primary reason for using the Remington Rand accounting equipment, he said, was because it was instantaneously accurate, since it is entirely mechanical and not subject to errors in accumulated totals due to a falling off in power loads.

In the past two years he has extended his business from the first central office in Phoenix to operating bureaus in San Francisco, Miami, Denver, Omaha, Kansas City, Dallas, Oklahoma City and a number of smaller towns such as Wichita, Kan., and York and Lancaster, Pa.

V V

New York City Nylon Producers Move to Expanded Offices

Because of increasing sales, The Heminway & Bartlett Mfg. Co., producers of nylon and other synthetic threads, moved June 30 to modern and expanded offices at 500 Fifth Ave. from their present location at 432—4th Ave., New York City.

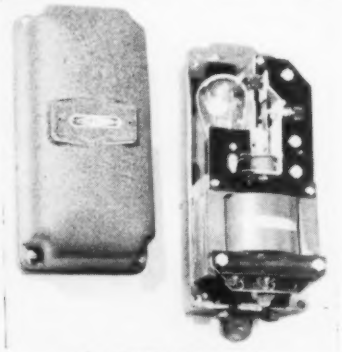
Heminway & Bartlett manufacture nylon lacing cord for the telephone field. They recently developed "Nylock," the only successful nylon twine used for fish netting.

ENDURRENE
• BROR • BRIDLE
A COMBINATION HARD TO BEAT FOR LONG-RUN ECONOMY AND RELIABILITY
PREMIUM GRADE INSULATION — NEOPRENE JACKET — TOUGH, ENDURING
DISTRIBUTED BY KELLOGG SWITCHBOARD AND SUPPLY COMPANY
MANUFACTURED BY
GENERAL INSULATED WIRE WORKS, INC. PROVIDENCE, R. I.

TELEPHONE RINGING BY FREQUENCY CONVERSION

The TELERING is a small, simple, highly efficient ringing machine at the remarkably low price of $34.50

Size: 4 x 4½ x 10 Weight: 8 Pounds



TELERING MODEL R

The TELERING supplies ringing current by the direct conversion of power line frequencies.
Voltage Range for all purposes, Central Offices and Private Branch Exchanges.
Considering the all inclusive features of this set there is no substitute.

For Further Information Write:

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BOX 186 ELYRIA, OHIO
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DID YOU GET IT?

Early in June we mailed our big 14 page mid-season bargain stock list of 106 items that every telephone company needs —

DID YOU GET YOURS?

If you haven't one of these on your desk — whether you are wire chief or chief clerk—You are losing a big chance for big-substantial *savings.*

Ask for Line Equipment Bulletin 29-A

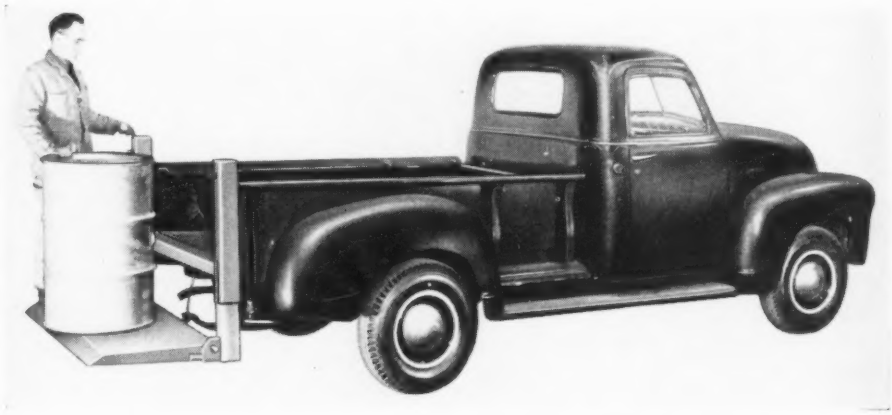
LINE EQUIPMENT SALES
"Order from L.E.S. and Pay LESS"

TERMINALS BLDG., CHICAGO 5, ILL.

Hydraulic Tailgate Loader Offered for Pickup Trucks

A hydraulically powered tailgate loader for pickup trucks, called the Lift-O-Matic, has been developed by the National Lift Co., Waukesha, Wis., subsidiary of Gar Wood Industries, Inc., Wayne, Mich.

The Lift-O-Matic can be installed on most pickup trucks. Its lifting capacity is 1,000 pounds. The hydraulic power is provided by a fan belt driven hydraulic pump with its own self-contained clutch. The pump operates only when lifting power is needed.



One control, installed on the Lift-O-Matic, is used for either raising, holding or lowering the tailgate. The operator can operate the unit while riding up or down with the load.

The Lift-O-Matic is all steel. When it is not being used to load or unload the truck, it can be level-locked at the truck body floor level, or it can be swung up and securely locked, acting as a regular tailgate. A safety by-pass valve in the hydraulic pump prevents overloading and endangering the hydraulic system.

The Lift-O-Matic speeds up loading and unloading pickup trucks—enables one man to handle all the loading and delivering. The Lift-O-Matic helps prevent damage to heavy merchandise that presents difficult loading and unloading problems even with two or more men on the job, the company states.

V V

R. D. Osborne Appointed Federal Telephone & Radio Controller

The appointment of Raimund D. Osborne as controller of Federal Telephone & Radio Corp., Clifton, N. J., a manufacturing affiliate of International Telephone & Telegraph Corp., has been announced. Mr. Osborne succeeds George T. Scharffenberger, who has been appointed assistant to Gen. William H. Harrison, president of IT&T and chairman of Federal's Board of Directors.

Mr. Osborne, who joined the IT&T system in 1928, served as an assistant controller of IT&T and in 1942 was transferred to Federal in the same position. He has been with Federal since then except for a brief period in 1948 when he was assigned to a mission in Europe by IT&T.

Mr. Scharffenberger, newly appointed assistant to Gen. Harrison, has served as controller of Federal for the past three years. Joining the company in 1943 as general auditor, he became assistant controller a year later. He continued in that post until he left Federal for war service. After his discharge from the Army, Mr. Scharffenberger returned to the company and was appointed controller in 1947.

A graduate of Columbia University and a certified public accountant of New York, Mr. Scharffenberger was a staff accountant for the firm of Arthur Anderson & Co., New York, before joining Federal.

V V

"There is a tendency for the federal government to step in and take over functions which local taxing bodies cannot perform because the voters won't give them the necessary money.

"The fact that the voters have indicated they would just as soon do without such functions by voting down the taxes for them is no deterrent to the federal government."—Astoria (Ore.) Budget.

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